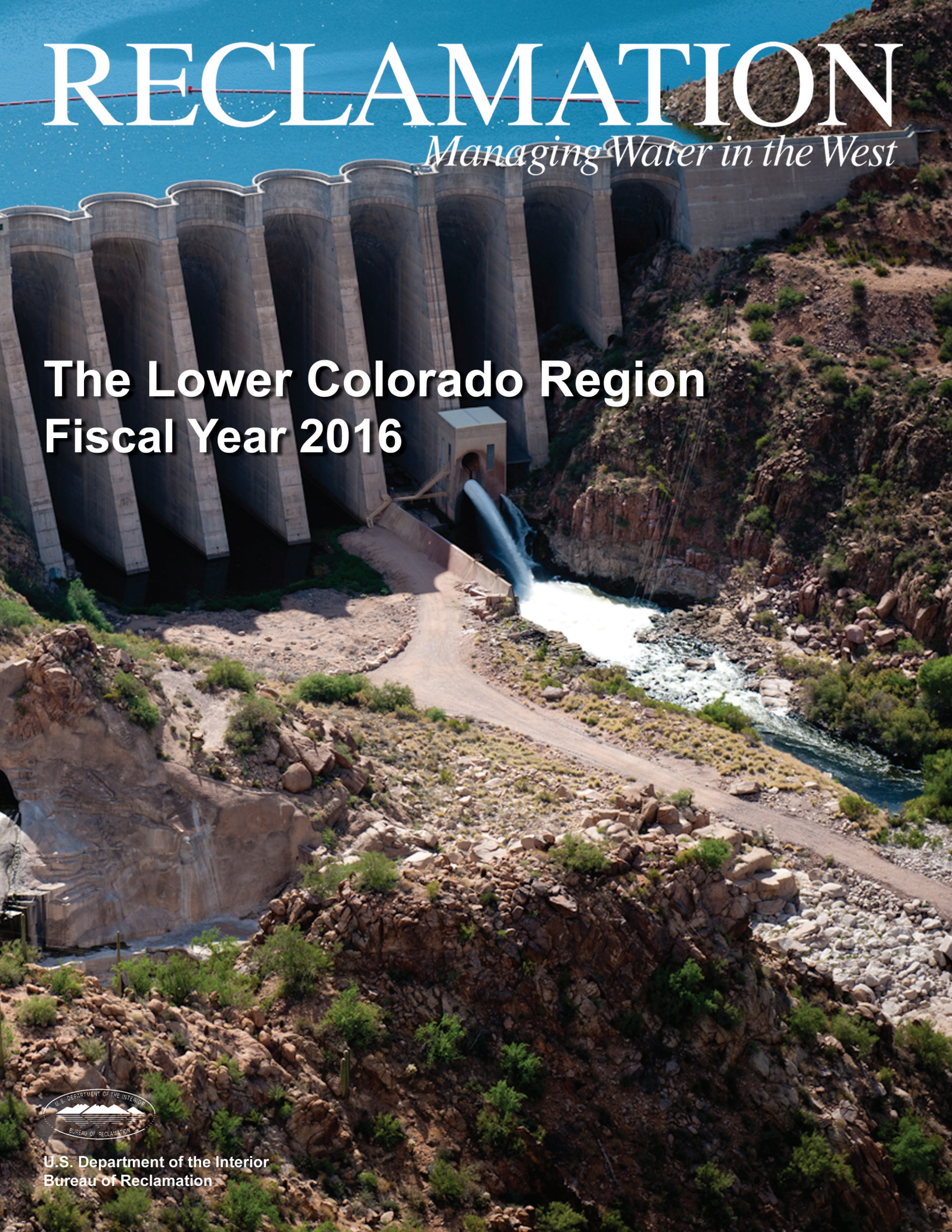
RECLAMATION

Managing Water in the West



The Lower Colorado Region
Fiscal Year 2016

U.S. Department of the Interior
Bureau of Reclamation

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Cover: Bartlett Dam and Lake, Verde River, Arizona

Sonoran Desert in California

Regional Director's Message

I am pleased to share with you the Lower Colorado Region's annual report for Fiscal Year 2016. This report highlights many of the Region's accomplishments, achieved only through the skill, dedication and hard work of our approximately 800 employees.

Our Region continues to manage, protect and enhance a broad range of water, power, land and ecosystem resources in the interest of the American public. Our commitment to transparent and collaborative problem-solving, with the involvement of all stakeholders, is paramount to the way we have and will continue to do business.

I am extremely proud of what we have been able to accomplish this year, yet we also know many challenges remain. One thing is certain – the complexity of the issues we face on the lower Colorado River and Region-wide continue to increase. I assure you that we'll continue to work diligently to address those issues and continue to effectively and efficiently accomplish our mission.

I invite you to read this report and learn more about our challenges and successes over the past year. Please share any feedback you may have via email at LC_report_feedback@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director
Lower Colorado Region

Lake Mead's Boulder Basin, Nevada

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Lake Mead and Fortification Hill, NV/AZ

Who We Are

The Lower Colorado Region was established by the Bureau of Reclamation in 1943 to design, construct, manage and maintain projects and facilities in the southwestern United States.

The Region geographically encompasses southern Nevada, southern California, most of Arizona, a small corner of southwest Utah, and the Gila and Little Colorado River Basins in west-central New Mexico – or about one-tenth of the land area of the western United States. Reclamation employees began working in this area soon after Congress passed the Reclamation Act in 1902.

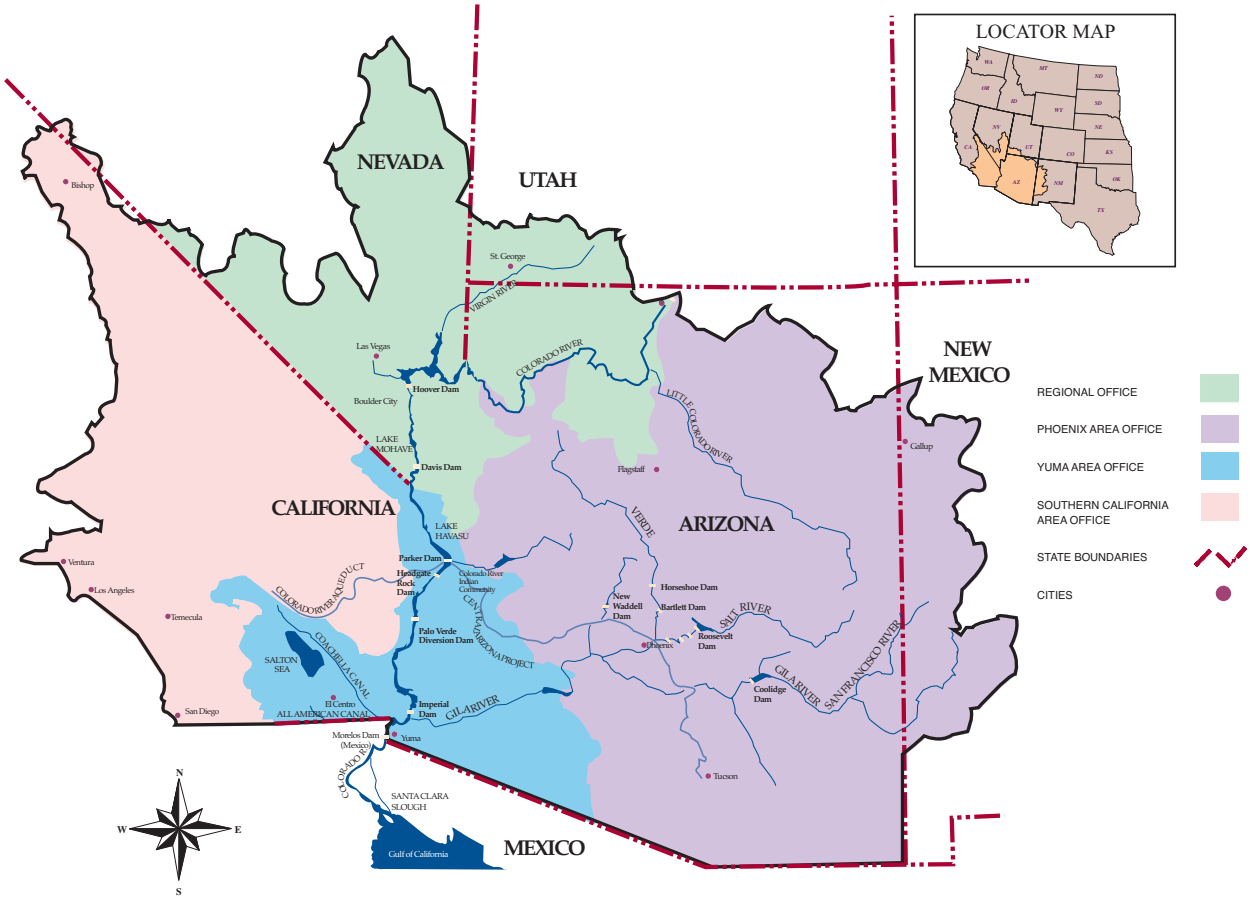
Reclamation's numerous projects and facilities in the Region – including the Salt River Project and Theodore Roosevelt Dam, Hoover Dam and the All-American Canal, the Yuma and Gila Projects, Parker-Davis Project, the Central Arizona Project, and the Robert B. Griffith Project (now Southern Nevada Water System) – have and will continue to contribute significantly to the Southwest's economic growth and development.

Roosevelt Dam on the Salt River in central Arizona is one of Reclamation's earliest projects. Constructed as a masonry dam between 1905 and 1911, it was raised 77 feet and encased with concrete in 1996, expanding the reservoir storage capacity by 20 percent.

Building water and power facilities was the Region's major role for most of the 20th century. Today, we are focused primarily on operating and maintaining our facilities; ensuring the safety and security of our projects, employees and visitors; ensuring efficient delivery of water and power; and protecting, preserving and enhancing natural and recreational resources.

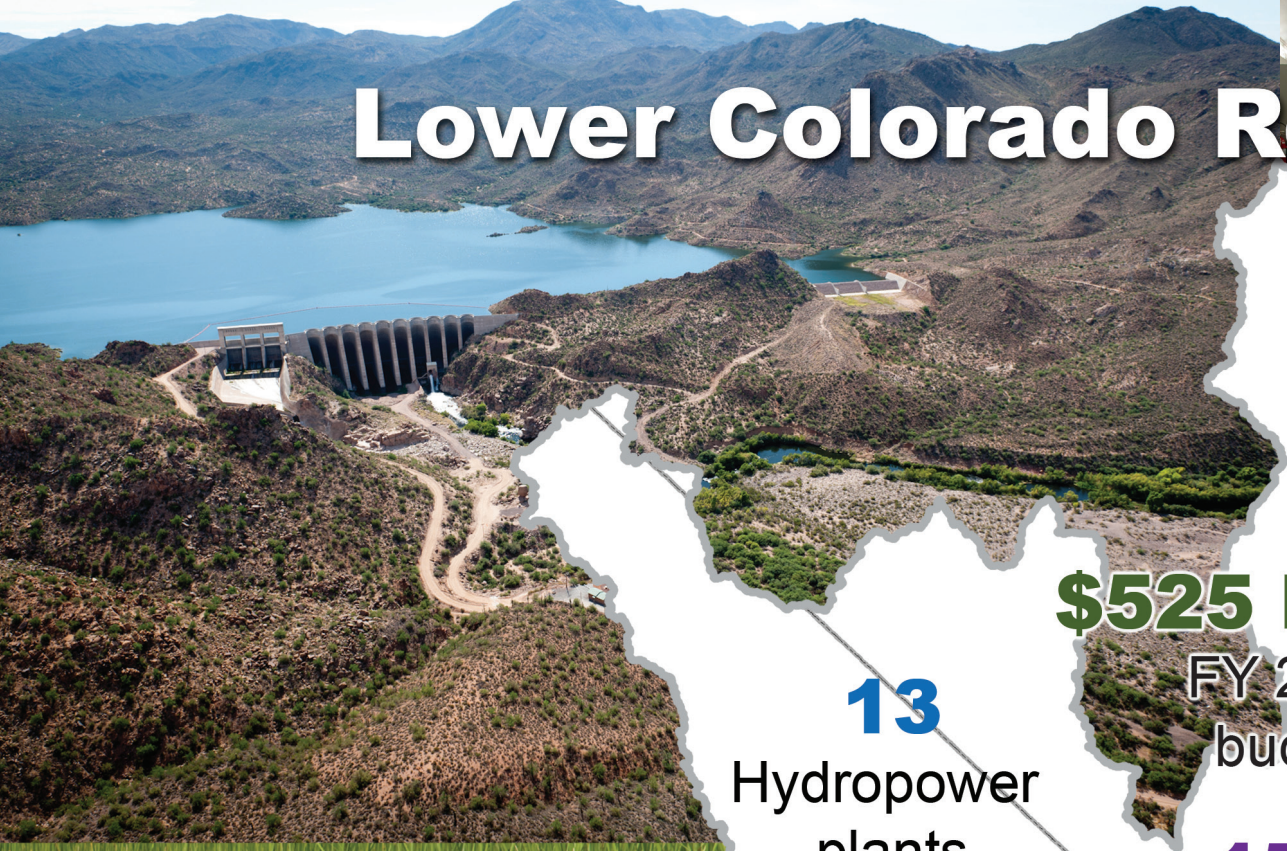
The Region, headquartered in Boulder City, NV, is comprised of offices located in Boulder City; Phoenix and Yuma, AZ; Temecula, CA; and at Hoover Dam that perform critical functions necessary to ensure successful program accomplishment.

The dramatic change to the landscape of the American Southwest brought about by Reclamation projects is evident in these images. The photo on the left shows the Yuma area in the early 1900s; the photo on the right is from the early 2000s.



The Lower Colorado Region covers about one-tenth of the western United States.

Lower Colorado Region



$525 Million
FY 2016 budget

13
Hydropower plants

15
Dams

5.56 Billion
Kilowatt-hours produced in 2016

13
Reservoirs

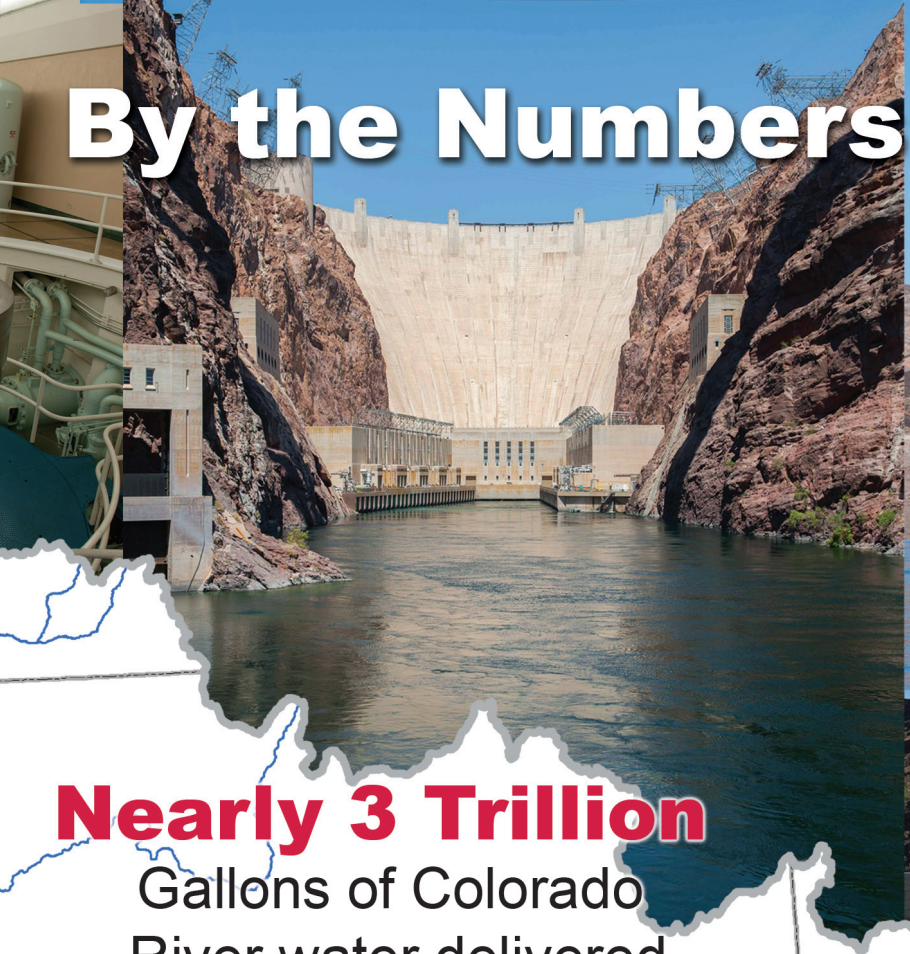
2,754
Megawatts of hydropower capacity

817
Employees

1
National Water Trail

1
Border neighbor (Mexico)

By the Numbers



Nearly 3 Trillion
Gallons of Colorado River water delivered

34.1 Million
Acre-feet of reservoir capacity
(An acre-foot is 325,851 gallons)

$3 Billion
Value of water related outdoor recreation activities

32
Recreation areas

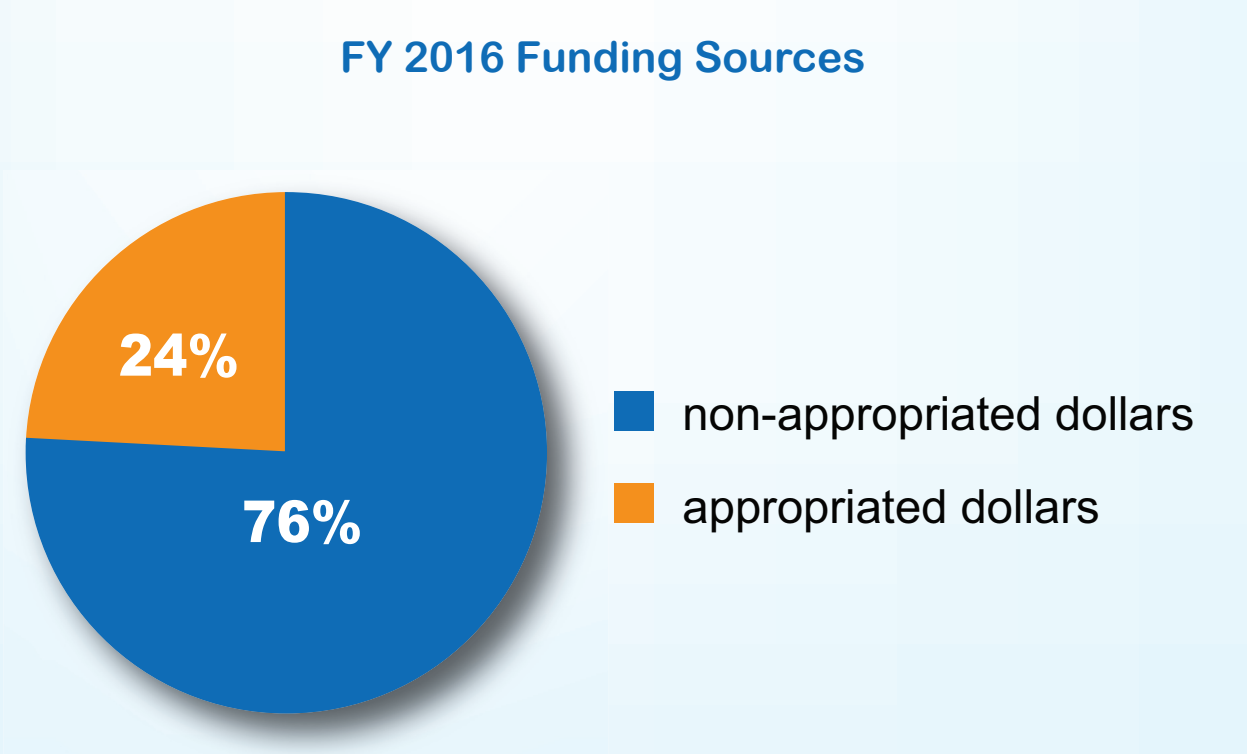
1.3 Million
Acres of land owned/managed

Our Budget

The Lower Colorado Region's total operating budget in Fiscal Year (FY) 2016 was $525 million, from the following funding sources:

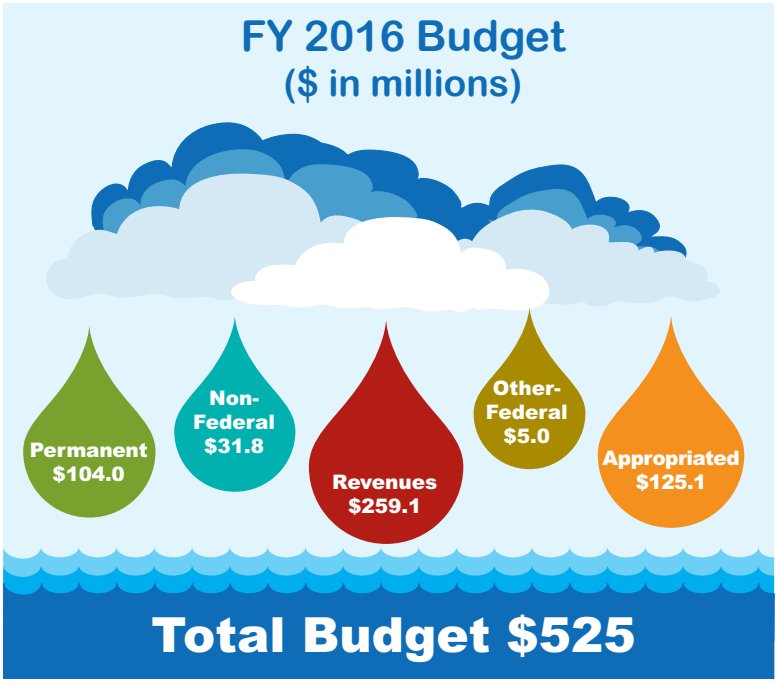
- Congressional appropriations;
- "permanent funding" from the sale of Hoover Dam power;
- revenues received for Central Arizona Project (CAP) activities including Navajo Generating Station surplus power sales;
- non-federal funds from Parker-Davis Project power contractors and the Lower Colorado River Multi-Species Conservation Program cost-share partners; and
- other federal funds provided by the Bureau of Indian Affairs through the Southern Arizona Water Rights Settlement Act.

Most of our annual operating funds are provided by program revenues or project partners. In FY 2016, 76 percent of the Region's total operating budget came from project revenues collected from the Region's non-federal partners and stakeholders. Approximately 24 percent of the total operating budget came from Congressionally appropriated dollars.



A Region-wide Budget Management Team ensures the Region's programs and associated budgets are formulated and executed effectively to meet program objectives.

In FY 2016, **Congress appropriated $125.1 million** for Region-wide programs, projects, and activities including water operations and a portion of the costs of maintaining facilities on the lower Colorado River, meeting Endangered Species Act requirements, implementing drought contingency plans, supporting water conservation and reuse, complying with the Mexican Water Treaty, and meeting legislative mandates.



Permanent funding totaled $104 million for FY 2016. These revenues come from entities that have long-term contracts for power generated at Hoover Dam. The 1984 Hoover Dam Power Plant Act requires that revenue from the sale of Hoover Dam power be deposited into the Colorado River Dam Fund and made available to pay for operations, maintenance, replacement, and repayment associated with the Boulder Canyon Project.

Revenue program funds totaled $259.1 million in FY 2016. Payments made each year by the Central Arizona Water Conservation District to repay construction of the Central Arizona Project are deposited into the Lower Colorado Basin Development Fund (established by the 1968 Colorado River Basin Project Act). In addition to these payments, other revenues deposited into this account come from the sale of power that is surplus to CAP pumping needs, a surcharge on power sold in Arizona from Hoover, Parker and Davis Dams, miscellaneous revenues from CAP operations, and other sources. The Arizona Water Settlements Act of 2004 also authorizes revenues that would have been returned to the Treasury for repayment of CAP construction costs to be retained in this account and invested with any earned interest deposited back into the account. Revenues remaining after the CAP construction repayment are used to pay for the cost of constructing tribal distribution systems and delivering CAP water to tribal lands, along with other costs authorized under the Act.

Non-federal funding totaled $31.8 million in FY 2016. Of this funding, the Parker-Davis Project power contractors provided approximately $15 million to operate and maintain Parker and Davis Dams. The Lower Colorado River Multi-Species Conservation Program partners provided $16.6 million to match appropriations to carry out efforts to conserve native species and their habitats in compliance with the Endangered Species Act.

Other federal funding, a total of $5 million in FY 2016, was provided by the Bureau of Indian Affairs as required by the Southern Arizona Water Rights Settlement Act. These funds are used for the annual delivery of irrigation water to the 2.8 million-acre Tohono O'odham Nation tribal community in southern Arizona.

FY 2016 Financial Commitments

In FY 2016, the Region obligated approximately $146.6 million for project-related activities through the award of 895 contract actions, 171 financial assistance agreements, 14 Public Law 93-638 Indian Self-Determination contracts (new contracts and modifications), and 19,205 micro-purchases.

Through these awards and purchases, small businesses and tribes benefited by approximately $34.2 and $41.3 million, respectively. About 30 percent of the funds obligated through these awards and purchases were from non-appropriated funds.

Much of the Region's revenue for operations comes from the sale of hydropower produced at Reclamation dams on the lower Colorado River. Clockwise from left: turbine gallery inside the Hoover Dam powerplant, exterior of the Davis Dam powerplant, and high-voltage transmission lines from Parker Dam.

Managing the Lower Colorado River

The Water Master Role

Under the Law of the River, the Secretary of the Interior manages the last 688 miles of the Colorado River, from Lee Ferry in northern Arizona to the border with Mexico. This includes the contracting, delivery, and accounting of all water use from the mainstream of the lower Colorado River.

The Region implements these management functions on the Secretary's behalf. Staff schedule water releases from mainstream facilities on a monthly, daily and, for some facilities, hourly basis; measure, record and report water diverted and returned to the mainstream; administer contracts for water delivery; account for all water use; and, with Reclamation's Upper Colorado Region and in close coordination with a broad range of partners and stakeholders throughout the Basin, develop the Annual Operating Plan for Colorado River Reservoirs (AOP).

The AOP documents operating decisions for the reservoirs for the upcoming year. For Lake Powell and other Upper Basin reservoirs, the standard time period for a year is the "Water Year" (WY), from October 1 through September 30. For Lake Mead and other Lower Basin reservoirs, the calendar year (CY), January 1 through December 31, is the standard time period.

Documented decisions include the amount of water to be released from Lake Powell through Glen Canyon Dam to the Lower Basin; whether a "surplus, normal, or shortage" condition will govern the operation of Lake Mead; and the amount of water available to Mexico under the 1944 Water Treaty and subsequent U.S.-Mexico agreements (referred to as "Minutes"). Because the water supply for the coming year is uncertain, operational changes are made within the AOP framework as water supply conditions change during the year.

This Colorado River gage is one of many that provide water flow and river level information to Reclamation's River Operations Centers.

In a "normal" year, water users in Arizona, California, and Nevada are entitled to 2.8, 4.4, and 0.3 million acre-feet (MAF), respectively, and Mexico is allotted 1.5 MAF by Treaty.

To date, there has not been a shortage in the Lower Basin, nor a reduction to Mexico. This is due primarily to the ability to store water in high flow years, particularly at Lake Mead and Lake Powell.

2016 System Status and River Operation Highlights

Approximately 90 percent of the Colorado River Basin's annual water supply originates in the Upper Basin. In 2016, the cumulative precipitation within the Upper Basin was 95 percent of the 30-year (1981-2010) October 1 - September 30 WY average. Inflow into Lake Powell during WY 2016, taking into account the effects of operations upstream, was 89 percent of the 30-year average.

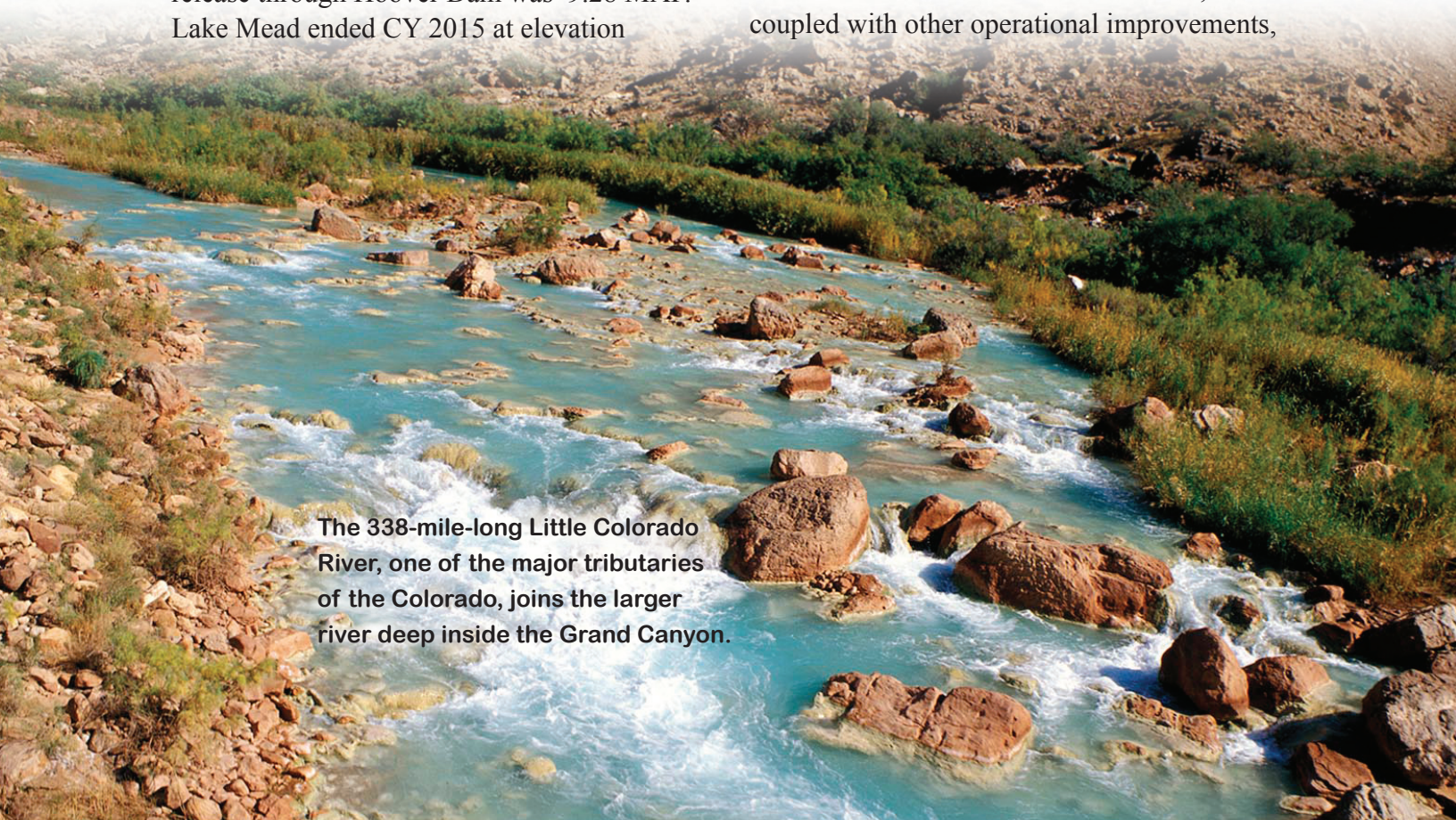
The total inflow into Lake Mead is a combination of the water released from Glen Canyon Dam and inflows to the river from tributaries between Glen Canyon and Hoover Dams.

In WY 2016, inflow into Lake Mead was 9.80 MAF, including 9.0 MAF released from Glen Canyon Dam and 798,000 acre-feet (AF) of tributary inflow, primarily from the Little Colorado and Virgin Rivers. Inflow into Lake Mead for C Y 2016 was 10.03 MAF and release through Hoover Dam was 9.28 MAF. Lake Mead ended CY 2015 at elevation 1,080.91 feet, with 10.09 MAF of water in storage (approximately 39 percent full), and ended CY 2016 at elevation 1,080.82 feet with 10.08 MAF of water in storage (also approximately 39 percent full), nearly the same elevation and water in storage for both years.

System-wide, the amount of water stored in WY 2016 in the Colorado River Basin reservoirs remained about the same as WY 2015 at 51 percent of capacity.

As documented in the 2016 AOP, 7.5 MAF of water (plus or minus credits for conserved water that remains in Lake Mead) was available for delivery to entitlement holders in the Lower Basin in CY 2016. In accordance with the 1944 Water Treaty, 1.5 MAF was also available for delivery to Mexico subject to adjustments provided for in Minute 319.

In FY 2016, we continued efforts to efficiently operate the river by working with irrigation districts to improve the accuracy of water orders and subsequent diversions. Also, the Brock Reservoir in Southern California, coupled with other operational improvements,



The 338-mile-long Little Colorado River, one of the major tributaries of the Colorado, joins the larger river deep inside the Grand Canyon.

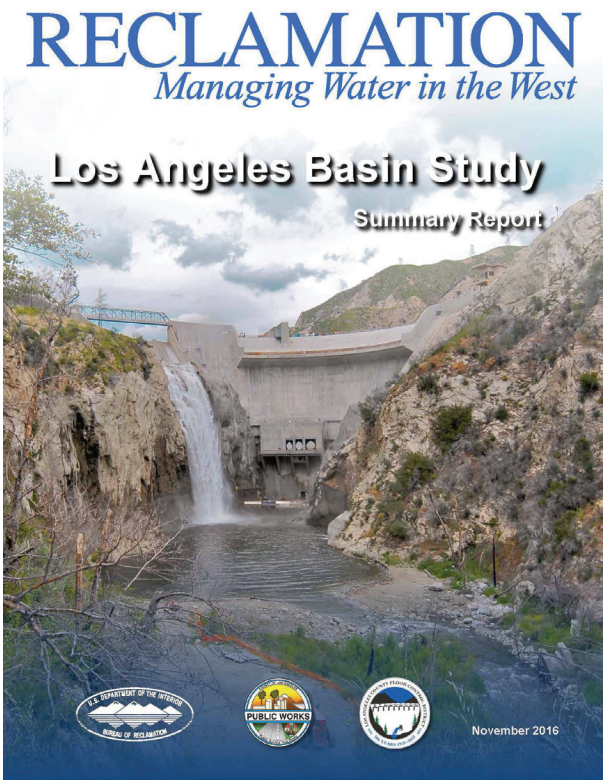
enabled us to continue to capture water arriving at Mexico's Northerly International Boundary that was in excess of scheduled deliveries. Water stored in Brock Reservoir was subsequently delivered to the Imperial Irrigation District as part of its annual entitlement in lieu of releasing water from system storage. In CY 2016, excess flows to Mexico were 9,230 AF, an 86 percent reduction in the annual average of 67,720 AF from 2006 through 2015.

Increasing Water Availability

Water is the Southwest's most precious natural resource. Water supplies, however, are increasingly stressed by demand from a variety of sources including an economically viable agricultural industry, rapid urban growth, and environmental needs. These needs, combined with a highly variable water supply, require the development of new water sources. Adequate supplies are essential to survival, to a healthy ecosystem, to energy production, and to economic sustainability.

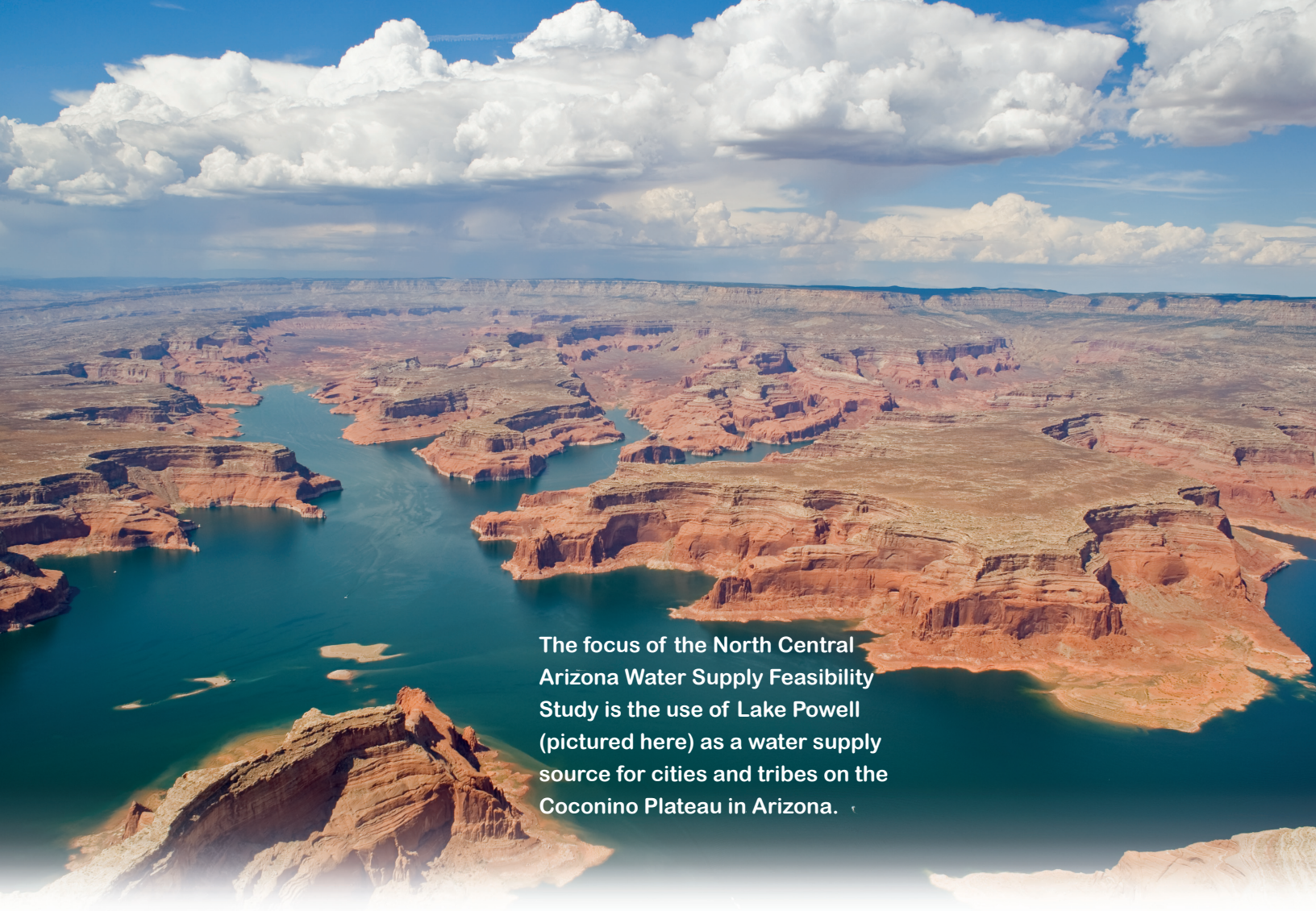
Reclamation works through a variety of programs with water resource managers and stakeholders to develop innovative strategies to ensure adequate supplies are available to meet these increasing demands into the future.

To address projected impacts and help relieve demand on the Colorado River and other sub-basins in the Region, we work with state and local water agencies, tribes, and non-governmental organizations to participate in the Department of the Interior's WaterSMART program. This initiative, under the SECURE Water Act, provides resources to address changing water supplies and demands, and enables us



This three-year Study was largely cost-shared by Reclamation ($1 million), the LA County Flood Control District ($1.4 million), and other participating partners.

to take action to secure water resources for communities, economies, and ecosystems. This is achieved through a number of programs including Basin Studies, Water Conservation Field Services, Water and Energy Efficiency Grants, Cooperative Watershed Management, Title XVI Water Reclamation and Reuse, and Drought Response. A new activity within the WaterSMART program is the Reservoir Operations Pilot Initiative that is helping determine how reservoir operations can be made more flexible to meet water management priorities. Collectively, these programs provide technical and financial assistance to organizations with water and/or power delivery authority through agreements typically requiring a 50 to 75 percent non-federal cost share.



The focus of the North Central Arizona Water Supply Feasibility Study is the use of Lake Powell (pictured here) as a water supply source for cities and tribes on the Coconino Plateau in Arizona.

In FY 2016, we participated in the Los Angeles and San Diego River Basin Studies in California, and the West Salt River Valley and Lower Santa Cruz Basin Studies in Arizona in an effort to project the impacts of climate variability and change on future water supply and demand in those areas. Plus, our Region initiated a Reservoir Operations Pilot Study in conjunction with the Salt River Project to identify a range of potential changes in surface water availability, and determine the resulting effects on operations of the Salt and Verde River systems in Arizona.

Additionally, 25 water and related resources planning studies totaling $2.6 million, including $1.3 million of in-kind services provided by study partners, continued in FY 2016. These studies are designed to help local and state water managers and agencies develop strategies to sustainably meet their current and future water supply needs.

Under the Title XVI program, the Region awarded six grants totaling $25.6 million to help Southern California agencies design and construct water recycling and treatment plants. These include the Chino Desalter expansion project, the Sweetwater Authority brackish groundwater desalination project, the City of San Diego Pure Water Program, the City of Corona's recycled water pipeline and storage system, the Padre Dam Municipal Water District water recycling project, and the Eastern Municipal Water District recycled water pipeline. In FY 2016 Title XVI projects in Southern California produced

nearly 330,000 AF of water. Work continued on the City of Goodyear's (AZ) Concentrate Management Wetlands Demonstration Project. For this effort, the City of Goodyear received both the 2016 WateReuse Association's Innovative Project of the Year, and one of *Water and Wastes Digest's* Top Projects of the Year awards. Reclamation's Rural Water Supply Program, established to work with rural communities in the West to assess and meet potable water supply needs, concluded in 2016. Studies completed this year within the Region include a report on feasibility of the C.C. Cragin Reservoir Water Supply Project in Payson, AZ, and an interim report for the North Central Arizona Water Supply Feasibility Study.

Projected long-term water supply and demand imbalances were identified in the 2012 *Colorado River Basin Water Supply and Demand Study*. A response to the findings in the Study, known as the *Moving Forward* effort, has built on the next steps it identified. The Study also documented the need for and commitment to undertake a Tribal Water Study. During FY 2016, the Region continued work on the Tribal Water Study which will, for the members of the Ten Tribes Partnership, assess tribal water supplies, current water use, and future water demand. The Study, which is expected to be completed in 2017, will also identify tribal opportunities and challenges associated with the development of tribal water.

Yuma Desalting Plant: A Potential Tool to Increase Water Supply

The Yuma Desalting Plant (YDP), a reverse osmosis desalting facility near the border with Mexico, was constructed to desalinate up to 72 million gallons per day of highly saline flows that originate in the Wellton

Lower Basin water managers are exploring the idea of using the Yuma Desalting Plant to help address water needs. Seen here is one of the Plant's three solid contact reactors.

Mohawk Valley east of Yuma, AZ. The desalinated water would be returned to the Colorado River to be included in deliveries to Mexico. After construction was completed in 1992, Reclamation did not operate the YDP due to surplus water conditions in the system. With the prolonged drought in the Southwest, however, there is renewed stakeholder interest in Reclamation operating the facility to increase water supply in the system.

Reclamation is committed to continuing to maintain the YDP while making progress with available funding to replace aged infrastructure to ready the plant for potential future operations. In FY 2016, we continued to make progress on designs for equipment replacements and awarded $2.52 million in contracts to modernize equipment at the facility. Additionally, $4.2 million was invested in infrastructure repairs and replacements on the 23 mile-long canal system that carries the saline flow that is the source water for the plant.

New Mexico's Central Arizona Project 'Unit'

Like other states, New Mexico is looking at its potential future water needs, and pursuing actions that will help it meet those needs.

The Colorado River Basin Project Act of 1968 and the 2004 Arizona Water Settlements Act (AWSA) authorized the Secretary of the Interior to enter into contracts with southwestern New Mexico water users that would, under certain conditions, allow them to consumptively use Gila River water that is currently being used by entities in Arizona. In exchange, an equivalent amount of Colorado River water from the CAP would be delivered to users in Arizona.

The State of New Mexico has elected to pursue and construct a diversion project, also known as a "Unit," under the AWSA.

Reclamation, as specified in the AWSA, is conducting National Environmental Policy Act (NEPA) reviews of the potential Unit. In conjunction with these reviews, Unit alternatives will be analyzed using the *Federal Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies.*

In FY 2016, Reclamation and the Department of the Interior finalized and executed the Unit Agreement with the New Mexico Interstate Stream Commission (ISC). Reclamation also completed Memorandums of Understanding with the ISC and with the New Mexico CAP Entity (Entity).

Also in FY 2016, the Entity requested and received authority to assume design responsibility and the ISC contracted with an engineering firm for project design. As part of this project, Reclamation is also providing engineering coordination and review.

A Record of Decision regarding a final alternative for the project could be issued as soon as December 2019.

Power Operations

Historically, the combined generation of the Hoover, Davis and Parker Dam powerplants has been more than 6 billion kilowatt-hours (kWh) each year. Although drought has drastically lowered Lake Mead's water level and reduced Hoover Dam powerplant's rated capacity from 2,074 megawatts (MW) to about 1,528 MW (about a 26.3 percent reduction), the powerplant generated nearly 3.6 billion kWh of energy in FY 2016, and net generation from the three plants exceeded 5 billion kWh.

Hoover Dam

Hoover Dam provides benefits beyond its annual power generation. It operates as a peaking powerplant, responding at four second intervals to meet peak electrical demands of the Western Area Power Administration (WAPA), which markets the electricity produced under long-term contracts. Its generation is combined with other sources to provide a consistent amount of electricity to meet changing demands. It also has a key role in restoring the Southwest's power grid should a major blackout occur.

Continuing the multi-year modernization program agreed to by the Region and Hoover Dam power contractors, four of the dam's 17 generating units have been retrofitted with "wide-head" turbines. A fifth wide-head turbine will be installed at the dam in FY 2017. These units operate more efficiently under the reduced water pressure that has resulted from Lake Mead's lower water level.

Along with other modernization efforts, we have recovered 105 MW of capacity that would have otherwise been lost at these

Six hundred feet above the Colorado River, a wide-head turbine runner is prepared for delivery by cableway to the Hoover Dam powerplant. The cableway, which was installed in the 1930s for dam construction, is one of the largest in the world with a rated capacity of 150 tons.

lower lake levels, an amount nearly equal to adding another generator to the facility. Reclamation and the power contractors continued to study the potential benefits and feasibility of further improvements.

Boulder Canyon Project Post 2017 Contracts

In FY 2016, Reclamation and WAPA signed new 50-year term contracts with 46 Hoover power contractors, of which 23 are tribal entities. These contracts provide for continued maintenance and operation of Hoover Dam to generate affordable and reliable hydropower for Indian tribes, municipalities, and power utilities in the Region. These contracts build on long-standing, effective practices to manage Hoover Dam and provide flexibility to address changing conditions in the future.

Parker-Davis Project

Davis Dam, about two miles upstream of Laughlin, NV, and Parker Dam, 30 miles south of Lake Havasu City, AZ, were combined into the Parker-Davis Project in 1954. Operations and maintenance of these facilities is funded by the entities that receive the energy they generate.

The Davis Dam powerplant generated 1.13 billion kWh in FY 2016. During the year we replaced the high-current conductors ("bus") that transmit power from the generators to the transformers and ordered the first transformer for a multi-year replacement program. In FY 2016, the Parker Dam powerplant generated nearly 448 million kWh. We also finished installing ultraviolet quagga mussel control protection systems on all unit cooling water and service water systems at Parker, and installed corrosion protection on all generator penstock gates.

Navajo Generating Station

The Navajo Generating Station (NGS), a 2,250 MW coal-fired generating plant in northern Arizona, is operated by the Salt River Project. Salt River Project holds 24.3 percent of the plant's output for the "use and benefit" of the United States. The U.S. is one of five participants that obtain power from the NGS. The Lower Colorado Region represents the federal interest in the plant.

About two-thirds of the federal share of the plant's output can provide approximately 90 percent of the energy needed by the Central Arizona Project (CAP) to pump water from Lake Havasu to users in central and southern Arizona. The remaining one-third of the power is sold and the revenue is used to, among other things, help repay CAP construction costs and fund Indian water rights settlements in central Arizona in accordance with the Arizona Water Settlements Act.

Coal for NGS is supplied exclusively by the Kayenta Mine, located near the town of the same name in northern Arizona. The mine is on lands leased from the Navajo Nation and the Hopi Tribe, and both the powerplant and the mine provide significant economic benefits and job opportunities to these tribes.

On September 30, 2016, we published for public comment a draft Environmental Impact Statement that evaluates the potential impacts of continued operation of the NGS and associated facilities, and the Kayenta Mine Complex, through 2044.

Alternative sources of energy are being sought to replace power from the Navajo Generating Station, a coal-fired plant in northeast Arizona that provides approximately 90 percent of the energy used for Central Arizona Project pumping.

Other NGS-related accomplishments in FY 2016 included: the execution of funding agreements and initiation of technical assistance to formulate clean energy development plans with the Hopi Tribe, Navajo Nation, and Gila River Indian Community; completion of a Carbon Reduction Credit and Clean Energy Development Credit Implementation Plan; and formulation of a landmark study in collaboration with the National Renewable Energy Laboratory. The study, *Navajo Generating Station & Federal Resource Planning Volume 1: Sectoral, Technical and Economic Trends*, is expected to be published in early FY 2017.

Due to the changing economics of energy production, it is anticipated there will be significant discussions regarding the economic viability of NGS during FY 2017.

Furthering Renewable Energy

The Region continued to advance renewable energy development, integration, and production in FY 2016, collaborating with others to seek ways to increase capacities and efficiencies at our existing powerplants and to support renewable energy facility development through the Lease of Power Privilege program.

We also continued to administer the Secretary of the Interior's Technical Work Group Agreement goals to earn over 27 million clean energy development credits and over 11 million carbon emission reduction credits. These credits are largely projected to be earned through upgrades to comply with proposed Clean Air Act emission requirements at the NGS, and through upgrades to our existing hydroelectric facilities.

Protecting and Enjoying Water-related Natural Resources

Managing and protecting natural and cultural resources is an important part of the Lower Colorado Region's mission.

More than 1 million acres of land have been acquired for Reclamation projects in the Region. Evolving public demands and regulatory requirements mean these lands are now also needed for other purposes, such as local utility and renewable energy projects, communications facilities, electric transmission lines, non-hydro renewable energy production, recreation, and environmental activities.

The Region complies with NEPA in decision-making related to the use of Reclamation-managed lands and resources. Through NEPA and all other pertinent laws, regulations, Executive Orders, and policies, the Region ensures environmental and related social and economic effects of our actions are considered prior to implementation to maintain conditions under which humans and nature can co-exist.

In carrying out our mission and under the National Historic Preservation Act, we have consulted with more than 40 Native American tribes, numerous public and non-government organizations, and five state historic preservation offices to identify and protect cultural and historic resources on Reclamation lands.

Additionally, a Sustainability and Environmental Management System is in place to ensure sustainable practices are followed in energy efficiency, water conservation, waste reduction, and the conservation of biological, cultural and natural resources. This regional program continues to be used as a "best practice" model throughout the Bureau of Reclamation.

Lower Colorado River Multi-Species Conservation Program

The Lower Colorado Region administers and manages one of the largest environmental programs in the United States – the Lower Colorado River Multi-Species Conservation Program or LCR MSCP.

This 50-year, 50/50 cost-share partnership among federal and non-federal entities balances the use of lower Colorado River water resources with the conservation of native species and their habitats in compliance with the Endangered Species Act, and associated state laws.

The program area extends more than 400 miles along the lower Colorado River, from Lake Mead's upper reaches to the Southerly International Boundary with Mexico.

The partnership is currently comprised of 57 entities, including state and federal agencies, water and power users, Native American tribes, conservation organizations, and other interested parties. The partners primarily participate through the program's Steering Committee to coordinate implementation of the program.

The Program's Habitat Conservation Plan (HCP) includes 13 general conservation measures and 65 species-specific conservation measures. Twenty-six species, including seven listed as threatened or endangered under the Endangered Species Act, are covered. Many of the conservation

measures require ongoing management through the duration of the program. Since the LCR MSCP was implemented in 2005, five HCP conservation measures have been completed and 13 conservation areas established. Conservation areas contain a variety of habitat types that enable multiple species to benefit from a specific area. We established more than 200 acres of new riparian habitat in FY 2016, bringing the total acreage actively managed for native species to nearly 5,500 since the program began. Based on program requirements at this stage, we are ahead of schedule.

The program also calls for the stocking of approximately 660,000 razorback suckers and 620,000 bonytail, two endangered native Colorado River fish, in the lower river. In FY 2016, 16,000 fish were raised and/or stocked, bringing the totals to about 166,000 razorback suckers and 77,000 bonytail. Approximately 121,000 razorback have been stocked in Lake Mohave, which has the largest single remaining population of these endangered fish, to maintain the genetic diversity of this brood stock.

Planet Ranch near Parker, Arizona, is recharged with thousands of acre-feet of water from the Bill Williams River, a tributary of the Colorado River. A portion of the ranch land is leased for the development of the LCR MSCP's newest conservation area.

In FY 2016, the LCR MSCP also acquired a lease for Planet Ranch, located on the Bill Williams River in western Arizona, from Freeport Minerals Corporation. Freeport subsequently donated the property and lease to the Arizona Game and Fish Commission. This acquisition adds approximately 1,000 acres of new riparian and backwater habitat to the program.

Other Environmental Programs

In Arizona, barriers are being constructed on small, remote streams to protect native fish. These barriers prevent non-native fish from moving upstream into areas where native

fish populations historically thrived in their natural habitats. Upstream of these barriers, Reclamation is working with the Arizona Game and Fish Department to remove non-native fishes and repatriate the streams with native species.

These management practices were implemented as conservation measures associated with the delivery of CAP water to the Gila River Basin of Arizona and New Mexico.

As of the end of FY 2016, fish barriers had been constructed on eight streams and electrical barriers on three canals. The most recently constructed barrier, on the West Fork of the Black River, was completed in May 2016. Design is underway for a barrier on Eagle Creek, which is expected to be constructed in FY 2018; additional concrete barriers are anticipated to be added in other Gila River Basin streams. Reclamation also funded expansion and modernization of the Arizona Game and Fish Department's Aquatic Research and Conservation Center, a native fish hatchery in Yavapai County that holds and propagates the spikedace and loach minnow, two of the rarest fishes of the Gila River basin. The expansion is expected to be completed in 2017.

Located in southeast Arizona, this fish barrier prevents non-native fish from the San Pedro River from entering Hot Springs Canyon, an area populated by endangered fish species.

In Nevada, we continued to participate in the partnership effort to protect the Las Vegas Wash. This "urban river" runs from the Las Vegas Valley to Lake Mead, carrying an average of more than 150 million gallons of water a day through a wetlands corridor on its way from the Valley to the lake.

A riparian corridor in an urban area, the Wash is an important ecological resource for southern Nevada, providing habitat to about 300 fish and wildlife species and more than 200 species of plants. The Lower Colorado Region is one of the 29 members of the Las Vegas Wash Coordination Committee, formed in 1998 to protect this valuable water resource.

In FY 2016, we partnered with the Southern Nevada Water Authority and Reclamation's Provo Area Office construction crew to support the ongoing maintenance of the weirs which control water flows in the Wash. We also helped stabilize the Wash's banks against further erosion, and monitored the effects of other protective and environmental work.

Tackling Invasive Species

Several invasive species have migrated into the lower Colorado River Basin. The Lower Colorado Region is tackling the threats these invasive species pose to water, power, the environment and recreational activities.

Quagga Mussels

Quagga mussels were discovered in Lake Mead in 2007. The mussel can block water

intake structures, pumps and delivery pipes; damage boats, docks, and other recreation facilities; and generally upset the ecological balance of water bodies.

In FY 2016, we continued to participate in Reclamation-wide and interagency task forces seeking to determine and understand the potential future impacts of quagga infestations on water-related infrastructure. These groups are identifying potential mitigation activities and costs, and implementing strategies to help keep mussels from spreading to other Western water bodies. They use National Invasive Species Council rapid response plans, which are designed to contain and, where possible, eradicate invasive populations. Because response efforts are localized, they are often led by state and local governments, but collaboration among local, state and federal entities, as well as the private sector, is critical to containing invasive species.

We are also participating in several activities to evaluate and demonstrate effectiveness of various measures to mitigate the impacts of quaggas. For example, various types of coatings and underwater treatment technology are being tested to determine their effectiveness in deterring the mussel from attaching to submerged metal surfaces, including trashracks and intake pipes.

At Hoover Dam, pumps have been installed in the tailbay (the area immediately downstream of the dam where water exits after flowing through the generators) to provide water to the generator cooling systems. Tailbay water is preferable to forebay water (the water flowing from Lake Mead into the generators) for the cooling systems because tailbay water contains less Quagga mussels can encrust submerged portions of a dam's quagga larvae which, upon reaching maturity, can obstruct and damage the generator systems.

Quagga mussels can encrust submerged portions of a dam's infrastructure, requiring extensive maintenance. This photo shows a trashrack at Parker Dam on the Colorado River covered with mussels.

In collaboration with experts from Reclamation's Technical Service Center, Regional staff conducted various research efforts, including an evaluation of chemical and non-chemical control methodologies, for reducing the quagga's impacts on the lower Colorado River dams. The preferred treatment method is to install ultraviolet (UV) light systems on the generating unit cooling systems to kill quagga larvae. The systems have been installed at Parker Dam and are scheduled for placement in Hoover Dam in FY 2017. Research is also underway at Parker Dam to evaluate the effectiveness of UV light to control other emerging invasive species, which are increasing within the Region.

Other Invasive Species Efforts

FY 2016 marked the 12th consecutive year we have partnered with Palo Verde Irrigation District, the Bureau of Land Management (BLM), the U.S. Department of Agriculture, and the U.S. Fish and Wildlife Service in an effort to reduce and control the further spread of giant salvinia, an invasive weed discovered in the Palo Verde Irrigation District's drainage system near Blythe, CA in 1999. The plant, which has migrated into the lower Colorado River, reduces oxygen content in water, eventually causing its quality to degrade to the point of stagnation. Giant salvinia can also block waterways, threatening both municipal and agricultural water delivery systems.

In March 2016 the Region was alerted to the potential presence of new aquatic invasive species in a backwater near Yuma, AZ. Reclamation staff assisted the Arizona Game and Fish Department with the physical removal of two species of floating aquatic plants: water hyacinth and water lettuce. No recurrence of these species has been documented to date, but both plants have the potential to significantly increase operations and maintenance costs of facilities that rely on Colorado River water and to intensify negative environmental effects. This emergency removal effort potentially saved significant future time and effort related to managing or controlling this aquatic invasive species. Reclamation staff also hosted a stakeholder meeting in April 2016 to discuss this topic with other affected agencies.

Although the Lower Colorado Region does not have a specific program to address the invasive, non-native tamarisk plant, we participate in an interagency agreement that uses the National Park Service's (NPS) Exotic Plant Management Team (EPMT) to conduct invasive species removal on lands throughout the Region.

Tamarisk plants, which have a significant presence along the lower Colorado River, can narrow and channelize streams and rivers, displace native vegetation, increase the risk of wildfire, and limit human and animal access to and use of waterways. We have removed tamarisk and other invasive plants on eight LCR MSCP conservation areas. This can create desirable habitat for native species, including some birds listed under the Endangered Species Act.

We also employ youth conservation corps crews to remove invasive plant species and restore project lands. During FY 2016, roughly 25 acres were treated for tamarisk and other weeds by Nevada Conservation

Corps crews and the EPMT. We have also worked with the NPS and BLM to identify partnership opportunities to remove tamarisk and other invasive species from the Muddy River corridor in southern Nevada. This work is projected to start in FY 2017, and will address about 10 acres of Reclamation lands.

Healthy desert ecosystems, like this wetland on the lower Colorado River, are fostered by resource management practices that seek to balance water supplies and demands. The Desert LCC joins groups in collaboration to work toward this goal.

Desert Landscape Conservation Cooperative

The Desert Landscape Conservation Cooperative (LCC), jointly led by Reclamation and the U.S. Fish and Wildlife Service, is one of 22 LCCs across North America. The Desert LCC is a binational, regional partnership that includes more than 70 organizations working together to provide scientific and technical support, coordination, and communication to resource managers within large-scale ecosystems. The Desert LCC works to increase understanding of natural resource management that includes providing water for ecosystem health, municipal and industrial demands, energy and economic development, and recreation. Because communities are increasingly attuned to the need for water to ensure healthy ecosystems and avoid environmental degradation, collaborative efforts such as the Desert LCC are bringing people together to prioritize issues and collectively work on solutions.

In the Lower Colorado Region, the Desert LCC has leveraged funding from multiple partners to develop and implement collaborative and cooperative pilot area Landscape Conservation Designs (LCD). The Desert LCC also has worked with partners to identify common goals that integrate societal and ecological values in the Mojave Desert and Madrean Watersheds (that span Arizona, New Mexico, Sonora and Chihuahua). Partners have prioritized stressors that are impacting the ability of natural and cultural resource managers to conserve water, grasslands, and biodiversity, and have combined existing data and efforts to make information more accessible to those who need it. For example, the Desert Flows Database combines data from 408 sources to provide a one-stop shop for managers seeking information on water flow needs and environmental responses.

Salton Sea

In FY 2016, the Department of the Interior and the State of California Natural Resources Agency entered into a Memorandum of Understanding (MOU) regarding the coordination of Salton Sea activities. Through this MOU, the Department and the State agreed to work collaboratively on issues and topics involving the State's management of the Salton Sea. Part of this MOU includes a Department commitment to pursue funding totaling $30 million to support operations and maintenance of habitat and dust suppression projects and participate in State-managed monitoring projects. The Bureau of Reclamation is an active participant in the State's process to coordinate stakeholders and draft a long-term management strategy for the Sea.

The Salton Sea, located in Southern California, is that state's largest saline lake. It is the modern incarnation of a prehistoric waterbody that filled and evaporated multiple times over thousands of years as the Colorado River shifted between emptying into the Gulf of California or diverting northwest into the Salton Trough (or Basin).

Irrigation drainage water, as seen in the drains in the foreground above, helps sustain the Salton Sea.

In 1905, a flood caused the Colorado River to breach a private irrigation company's diversion structure, and the River once again flowed into the Salton Basin. After two years, the river was engineered back to its course, but it left behind a "new" Salton Sea.

In 1924, a Presidential Order designated approximately 90,000 acres of federal lands beneath the Sea a drainage reservoir. The Sea, which would have evaporated naturally, has been sustained by agricultural runoff from the Imperial and Coachella Valleys and other sources over the last century. It annually loses approximately one MAF of water to evaporation, resulting in increasing salt and nutrient concentrations that threaten its long-term viability.

The Sea is a vital stop on the Pacific Flyway for millions of birds; over 400 bird species, including several endangered species, have been identified at the Sea. The ecological benefits of the Sea to these birds are being severely compromised due the Sea's increasing salinity. Through the 1990s, some of the largest bird die-offs in U.S. history brought national attention to the Sea's declining conditions. Various studies were conducted over the years to assess the issues and develop restoration programs, but no comprehensive management actions have been taken to date.

Recreational Opportunities

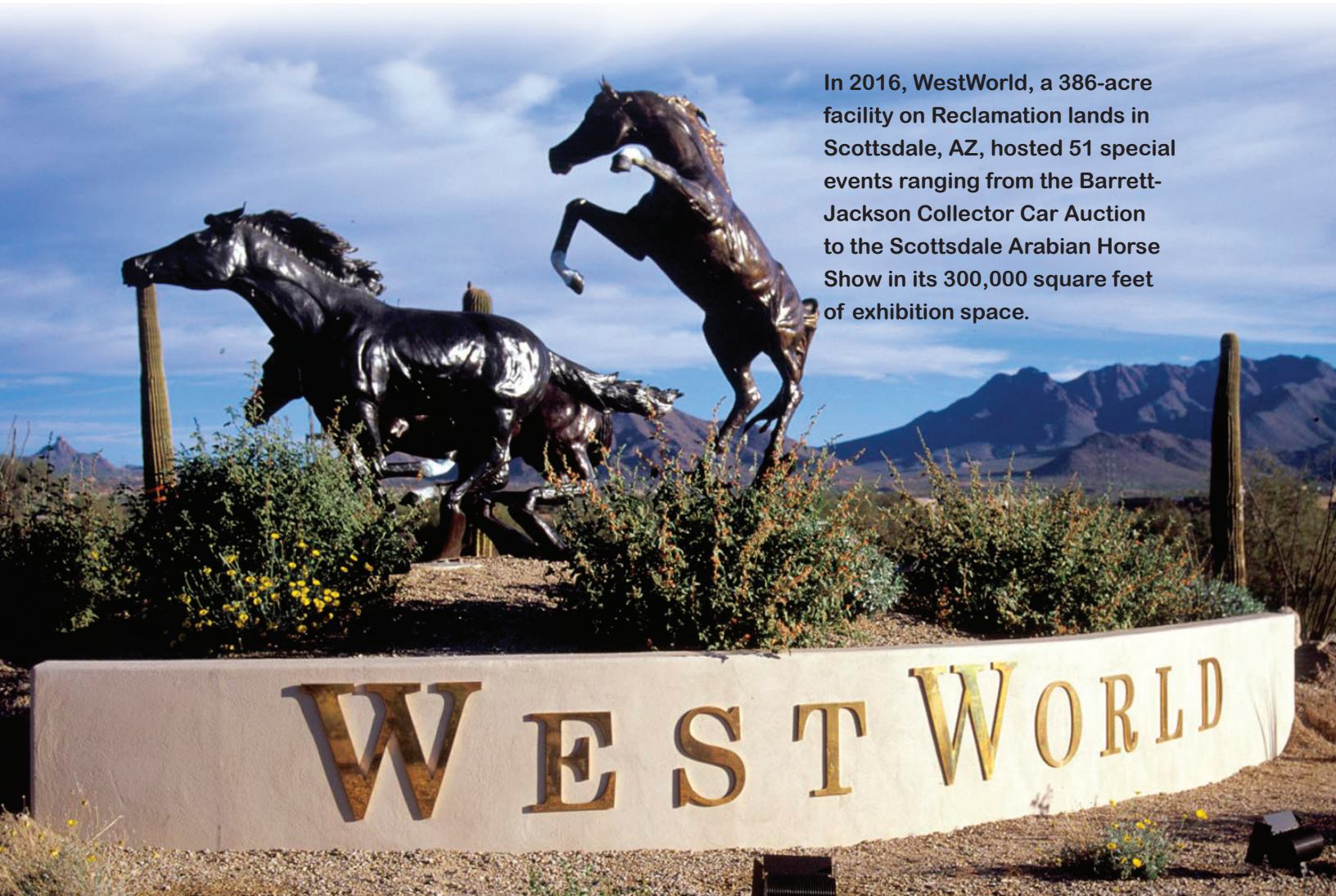
Lower Colorado Region projects and lands provide substantial year-round recreational opportunities, generally through partnerships with state, local,

public and private entities, and other federal agencies. The recreation industry along the lower Colorado River alone generates about $3 billion annually.

In FY 2016, a partnership with NPS, the City of Bullhead City, and Mohave County developed plans to build the Arizona Heritage Trail from Davis Dam to the Laughlin Bridge, which crosses the Colorado River just north of the cities of Laughlin, NV, and Bullhead City, AZ. Environmental and other compliance for this $5.9 million project, which is funded through the Southern Nevada Public Lands Management Act's sale of federal lands, was approximately 70 percent complete at the end of FY 2016. Once the trail is constructed, the City of Bullhead City and Mohave County will patrol, operate, and maintain it.

We are also working with Arizona and Nevada Departments of Transportation to improve the pedestrian walkway on the Laughlin Bridge in FY 2018/2019. By connecting Davis Dam, the bridge, and the existing Colorado River Heritage Greenway Trails on the Nevada side of the river with the new Arizona Heritage Trail, a seven-mile loop trail will be established for hikers, bicyclists, and other users to enjoy both the waters and lands in this area.

The Colorado River Heritage Greenway Park and Trails, an "America's Great Outdoors" project near Laughlin and Bullhead City, is another developing recreational project. A two-mile long trail along the river links these communities to Lake Mead National Recreation Area. An additional 11 miles of trails associated with the project will offer equestrian and hiking opportunities to view the river and explore the desert landscape.



In 2016, WestWorld, a 386-acre facility on Reclamation lands in Scottsdale, AZ, hosted 51 special events ranging from the Barrett-Jackson Collector Car Auction to the Scottsdale Arabian Horse Show in its 300,000 square feet of exhibition space.

In our continued partnership with the City of Scottsdale, Reclamation lands in Arizona are annually the site of some of the City's largest public events including the Waste Management Phoenix Open, the Barrett-Jackson Scottsdale Collector Car Auction, and the Scottsdale Arabian Horse Show. In FY 2016, the PGA Tour's Waste Management Phoenix Open continued to be a popular event as it set new week-long (618,365) and Saturday (201,003) attendance records. The 2016 Barrett-Jackson Auction brought in 350,000 people to WestWorld of Scottsdale, adding $167 million to the local economy during the week-long event.

Ongoing planning partnerships are developing trails along the Central Arizona Project (CAP) canal in southern Arizona as part of the Sun Corridor Trail System that links several regional trails throughout Arizona and southern Nevada. As part of this effort, in FY 2016, we executed a Recreational Land Use Agreement with Pinal County and completed environmental compliance activities in Pima County.

In cooperation with Maricopa County (AZ), renovations to the Lake Pleasant Regional Park Discovery Center northwest of Phoenix were completed. An additional 2,000 square feet was added as well as enhanced accessibility and energy-saving features. The Center now includes interpretive exhibits and wildlife displays which provide an opportunity for approximately 800,000 annual Park visitors to connect with nature and learn the history of Lake Pleasant and New Waddell Dam.

In FY 2016, we also continued our long-standing partnership with BLM and others on the Lake Havasu Fisheries Improvement Program, which enhances sport fisheries habitat in Lake Havasu. We awarded a contract, co-funded by BLM, to install a new fishing pier at Contact Point. We also worked with Arizona State Parks to obtain Federal Highway Administration funding to replace the main access roadway at Cattail Cove State Park on Lake Havasu.

We partnered with NPS and the Lower Colorado River Water Trail Alliance to develop a proposal for an additional 76 miles of water trail on the lower Colorado River. The trail would begin where the existing Black Canyon Water Trail ends south of Hoover Dam, traverse both sides of Lake Mohave to Davis Dam, and then continue two miles beyond Davis Dam to the Laughlin Bridge.

Reclamation led the development of the proposal, with active support from the partners. The nomination, expected to be submitted in early FY 2017, includes a supplement that features descriptions of natural and cultural features of the Lake Mohave area, as well as historical highlights. This is Reclamation's second proposed water trail, and has support from Nevada State Parks, Arizona State Parks, Mohave County (AZ), Clark County (NV), the Nevada Department of Wildlife, and the National Park Service.

Helping Native American Tribes, Nations, & Communities

There are 61 federally recognized tribes in the Lower Colorado Region, and we provide many of them financial and technical assistance to develop their water resources, facilitate self-sufficiency, and help fulfill Reclamation's trust responsibilities.

In FY 2016, the Region awarded contracts totaling $34.2 million under Public Law 93-638, the Indian Self-Determination and Education Assistance Act, to the Tohono O'odham Nation (AZ), the Gila River Indian Community (AZ), and the San Pasqual Band of Mission Indians (CA). This Act supports tribal sovereignty, self-governance, and self-determination efforts and encourages tribes to assume management of eligible programs.

The Region also awarded $475,000 to two California tribes, the San Pasqual Band of Mission Indians and the Big Pine Paiute Tribe of the Owens Valley, for drought-related activities. We also provided $460,000 in technical assistance funding to aid six tribes with reservation water management activities, and to the Inter Tribal Council of Arizona for the continued support of their Tribal Leaders Water Policy Council. Additionally, we provided $450,000 to two Arizona tribes, the Gila River Indian Community and the Hopi Tribe, for renewable energy-related projects related to Navajo Generating Station activities.

We also continued to perform long-term activities such as participating on Native American water rights settlement teams, implementing our trust responsibilities for various water rights settlement acts, and executing the FY 2016 Gila River Indian Community Annual Funding Agreement. This Agreement continues construction of the Pima-Maricopa Irrigation Project and rehabilitation of the San Carlos Irrigation Project south of Phoenix, AZ.

In addition, we provided significant technical assistance to Arizona tribes without water settlements, including water management planning and pre-construction activities for CAP water distribution systems.

When complete, the Gila River Indian Community's Pima-Maricopa Irrigation Project will convey Colorado River water to more than 146,000 acres of land in central Arizona. The plan for the 2,400-mile irrigation system includes 25 miles of underground pipe and 57 miles of open canal; the remainder consists of smaller canals and laterals.

Protecting Our Resources

Maintaining Safe Infrastructure

Lower Colorado Region engineers and other staff work to ensure the Region's dams and other facilities, many of which are over 50 years old, continue to operate safely and reliably. To reduce potential risk, we assess structural and performance reliability and implement modifications using state-of-the-art design and construction practices as necessary.

Safety of Dams

The Safety of Dams program ensures our dams are safe and helps protect downstream communities through periodic reviews of each dam's stability and physical integrity.

Reclamation owns 15 dams in the Lower Colorado Region, which include dikes at Brock Reservoir in Southern California and on the Central Arizona Project. Each year, these structures are given a Facilities Rating Reliability score of 'Good', 'Fair', or 'Poor'. This rating is based on points earned for a variety of Safety of Dam and operations and maintenance factors. In FY 2016, 14 of the dams received the highest rating of 'Good' and one received a rating of 'Fair, demonstrating the effectiveness of the safety review programs.

The major Safety of Dams program components are Comprehensive Reviews (CRs), Periodic Facility Reviews (PFRs), and Annual Site Inspections. CRs, performed every eight years, include a detailed on-site physical examination and design, geology, hydrology, and seismology evaluations. PFRs, which are performed every eight years, midway between CRs, involve a detailed on-site examination of the structures. Annual Site Inspections are conducted in those years in which there are no CRs or PFRs, and each dam undergoes a visual inspection at least quarterly to supplement the formal inspections.

Safety of Dams inspectors, consisting of engineers from Reclamation and the operating agency, examine all sections of a dam during their annual reviews. Here, Lower Colorado Region and Salt River Project staff inspect the drainage gallery in Roosevelt Dam in Arizona.

For the one CR and three PFRs conducted in FY 2016, no major findings or recommendations were identified.

In addition to inspecting each dam's physical condition, Emergency Action Plans (EAPs) and emergency management exercises help maintain the safety of our dams. Although there has never been a dam failure in the Region, an EAP has been prepared for each dam that could cause economic damage or loss of human life if it failed, and these EAPs are updated annually.

Tabletop and functional exercises are performed for each dam every four and eight years, respectively. Tabletop exercises involve an informal discussion of actions to be taken in an example emergency situation. Functional exercises practice a timed, emergency response to a simulated incident. In FY 2016, we conducted 10 tabletop exercises.

A view of a developing section of Peoria, AZ, adjacent to a portion of the CAP canal that is considered to be an "urbanized" canal

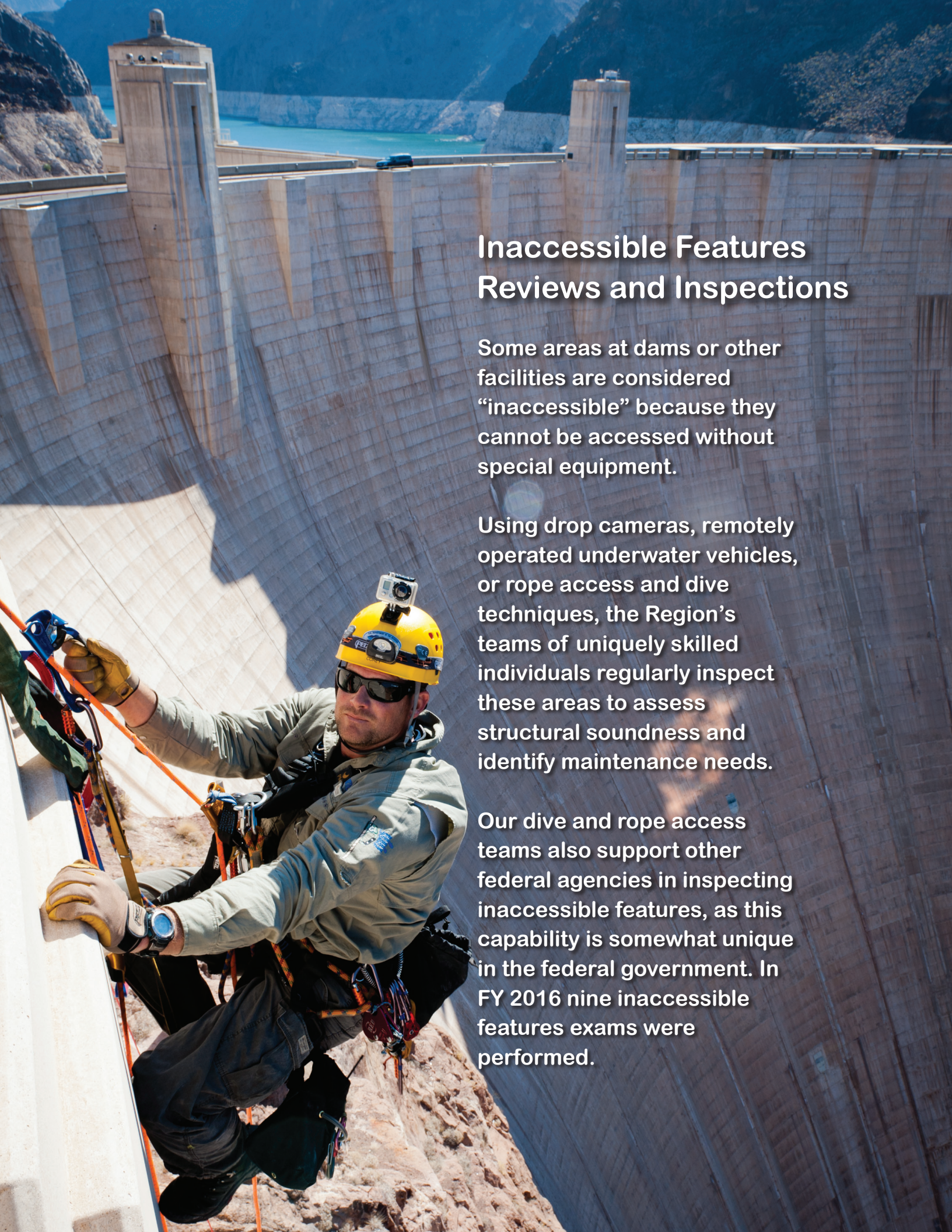
Review of Operations and Maintenance

We also conduct a routine Review of Operations and Maintenance (RO&M) program to periodically review and examine other structures, including canal turnouts and check structures, bridges, siphons, and pipelines, to ensure they are operated consistent with Standing Operating Procedures, and to identify maintenance deficiencies or safety concerns.

Issues identified in the RO&M process are used to develop preventive maintenance programs, identify actions to improve operations, and create/update Standard Operating Procedures related to maintaining structural, electrical and mechanical equipment. The examinations ensure each facility is safely operated and maintained to reduce in-service failures and unplanned outages and to protect the federal investment. In FY 2016, 12 RO&M inspections were performed on Lower Colorado Region projects, and no major deficiencies were found.

Urbanized canals are sections of canals that are located within urban areas that could potentially be flooded if a failure were to occur. Because of this risk, Reclamation inspects these canal sections more frequently. The Region inspected seven urbanized canals in FY 2016; all were found to be in good condition.

The Region owns more than 200 bridges. Many of these are open only to government employees and operating districts, but are reviewed through the RO&M inspection process. Some of the bridges are open to the public; these are inspected every two years, as required by the Federal Highway Administration. In FY 2016, we inspected 37 bridges that are open to the public. No safety issues or concerns were found during these inspections.



Inaccessible Features Reviews and Inspections

Some areas at dams or other facilities are considered “inaccessible” because they cannot be accessed without special equipment.

Using drop cameras, remotely operated underwater vehicles, or rope access and dive techniques, the Region’s teams of uniquely skilled individuals regularly inspect these areas to assess structural soundness and identify maintenance needs.

Our dive and rope access teams also support other federal agencies in inspecting inaccessible features, as this capability is somewhat unique in the federal government. In FY 2016 nine inaccessible features exams were performed.

A Safe Workplace

Our Region's safety commitment is "Every employee, contractor, and visitor arrives at work safely, conducts business safely, and returns home safely every day."

To that end, in FY 2016, we continued our ongoing workplace safety activities, such as enhancing safety awareness through Safety Fairs and Safety Days, an annual watercraft safety event, participating in local safety committees, and publishing weekly safety articles in the Regional newsletter.

The Yuma Area Office conducted a major Safety Stand-down Week to focus on safe operations and maintenance practices. Additionally, we increased safety staff at the Yuma Area Office and the Lower Colorado Dams Office, and fully implemented the Globally Harmonized System, which integrates aspects of the Sustainable Environmental Management System into the process we use to procure needed chemicals.

Training also emphasized safe driving habits while sharing the road, and encouraged safe practices in all daily activities to help build a safety-minded culture.

In addition, the Region-wide Safety Advisory Committee developed a safety guidance document for employees working in isolated or field conditions; the document was approved by the Regional Management Team. The Committee's goal is to continue to foster a climate where safety and productivity are equally important objectives for employees in accomplishing their work. By improving communication, safety issues common across the Region are being identified and resolved.

Local firefighters demonstrate an accident evacuation at the Yuma Area Office Safety Fair.

Security and Law Enforcement

A primary focus of the Region is to ensure its employees, contractors, visitors, and facilities are safe and secure. Security personnel and a BLM Special Agent and Ranger are assigned to the Region to work closely with the Hoover Dam Police Department (HDPD) and other Reclamation and non-Reclamation entities to assess security needs and develop or improve threat detection, identification, deterrence and response.

The Special Agent manages investigative- and intelligence-related activity and represents Reclamation at Joint Terrorism Task Force meetings, the Southern Nevada Counter-Terrorism Center, the Arizona Counter-Terrorism Information Center and other regional law enforcement activities.

The Ranger addresses public conduct and resource-related crimes on Reclamation lands throughout the Region.

In FY 2016, Reclamation collaborated with the U.S. Navy to procure and install an enhanced security barrier upstream of Hoover Dam in Lake Mead.

In FY 2016, three Periodic Security Reviews at lower Colorado River dams were conducted along with one Comprehensive Security Review at Hoover Dam, a national critical infrastructure (NCI) facility.

Regional security staff and dive team members performed Reclamation's first comprehensive underwater tactical study. The results of this study have been well received by other Reclamation offices, the Department of Homeland Security, and the U.S. Army Corps of Engineers. Along with our partners, the Salt River Project and the U.S. Navy, Regional security staff continued to implement a comprehensive security plan approach for the Region's thin arch dams.

The security staff also worked with the Department of Homeland Security's Office for Bombing Prevention to deliver a unique training opportunity for Reclamation-wide Dive Team, HDPD, and local law enforcement personnel on maritime threat considerations.

The Region hosted an on-site Regional Management Team meeting with a security and law enforcement focus, which allowed senior managers to engage in relevant security topics. Additionally, we hosted Reclamation's first joint workshop for security and law enforcement personnel from both internal and partner agencies, to exchange operational concepts and "best practices" for securing Reclamation's five NCI dams.

We worked with the U.S. Navy to install a new water vessel barrier on Lake Mead upstream of Hoover Dam. This innovative interagency effort augmented facility security and saved resources.

Hoover Dam is protected 24 hours a day, 365 days a year by HDPD, Reclamation's only authorized police force. The HDPD, which has been present at the dam since the early 1930s, provides security and law enforcement at the dam and its surrounding security zone. In FY 2016, the HDPD investigated a number of cases, including several felony investigations which resulted in Grand Jury indictments and subsequent convictions.

The Human Element

The Lower Colorado Region's programs could not be accomplished without a dedicated, diverse workforce. Every employee contributes to our program accomplishments, whether they are based in Nevada, Arizona, or California. Every day, at every level, the Region relies on them and their commitment to public service to achieve our goals and objectives.

We employ many strategies to recruit, develop, and retain a skilled and diverse workforce. Our professional Equal Employment Opportunity (EEO) and Human Resources staff conduct various activities to recruit and train people who can perform the work we do now and will do in the future. These outreach activities include participating in job fairs, visiting college campuses, and other recruitment efforts. In FY 2016, we participated in 26 career fairs that reached nearly 700 potential job applicants.

We also train our employees so they can maintain skills and develop new proficiencies needed to successfully accomplish our programs now and into the future. In FY 2016, we hosted a Leadership Development Program (LDP) for career employees at all grade levels to help them cultivate the skills needed to attain more challenging positions with greater responsibilities, including top leadership positions. This program allows for on-the-job development to increase participants' confidence and a demonstration of personal commitment to real change for themselves and the agency. In 2016, the Region had 120 employees successfully complete the LDP.

Engaging the Next Generation

We know it is important to integrate and engage the next generation into our workforce. One way we do this is by creating opportunities for young people to experience potential federal careers. During FY 2016, the Region participated in 66 outreach activities, reaching nearly 23,000 youth, and employed 40 students.

The Hoover Dam Bridge and Colorado River provide a perfect 'selfie' backdrop for a group of summer students on a familiarization tour of the River.

We also continued to partner with and support local college and university programs such as the University of Nevada - Las Vegas' (UNLV) Women's Research Institute

of Nevada (WRIN) and Multi-Cultural Program. EEO staff serve on both programs' advisory boards, which enables us to remain current in the changing needs of women and minority job seekers. In FY 2016, we took part in WRIN's National Education for Women's Leadership program, an award-winning program to educate and empower the next generation of women leaders, by participating in panel discussions and presenting diversity workshops. Also, in cooperation with UNLV's Multi-Cultural Program Director, we extended our outreach partnership with Ft. Valley State University, a historically black college in Georgia. In addition, the Region partnered with Arizona Western College for their Yuma Youth Town Hall that addresses career and college readiness for their students.

Plus, we partnered in an Interior Department effort that helps connect youth to the outdoors and natural resource-oriented careers through agencies that manage public lands in Arizona. Known as Youth Careers & Academic in Nature Arizona (You CAN AZ), this partnership is developing programs that integrate environmental education, engagement, and employment in the outdoors. These programs provide opportunities for youth to gain appreciation for, and become stewards of, our natural resources. You CAN AZ utilizes existing Departmental programs and other programs that allow youth from all backgrounds to explore, connect with, and preserve America's natural and cultural heritage.

Other key FY 2016 activities included participation in the Las Vegas Science & Technology Expo, which reached an estimated 8,500 students from all over the United States over a one-week period, and support of the Southern Nevada Regional Student Model Bridge Building Contest, in which approximately 700 students participated. We also provided Hoover Dam tours for more than 7,900 students, sponsored the annual Nevada Regional Science Bowl, and provided expert speakers at local schools, from elementary to college level, to present information about us and our work, and to share their knowledge about careers and specific jobs that support Reclamation programs.

Multiple generations enjoy a tour of the Lower Colorado Region boat shop.

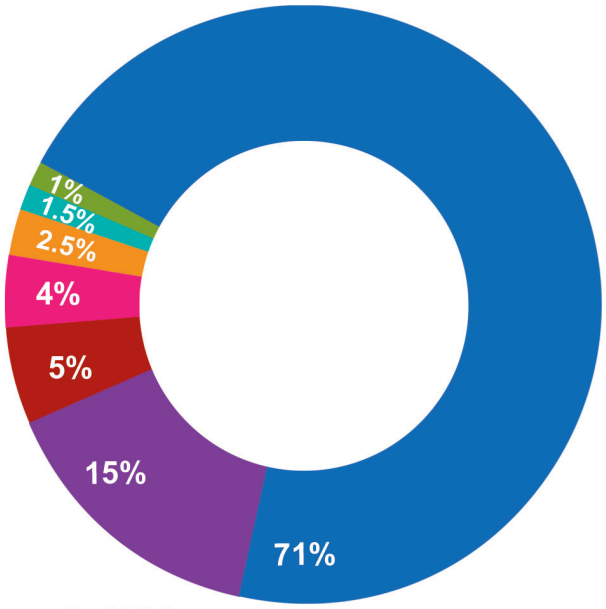
WORKFORCE SNAPSHOT

817 Total Employees

66% 34%

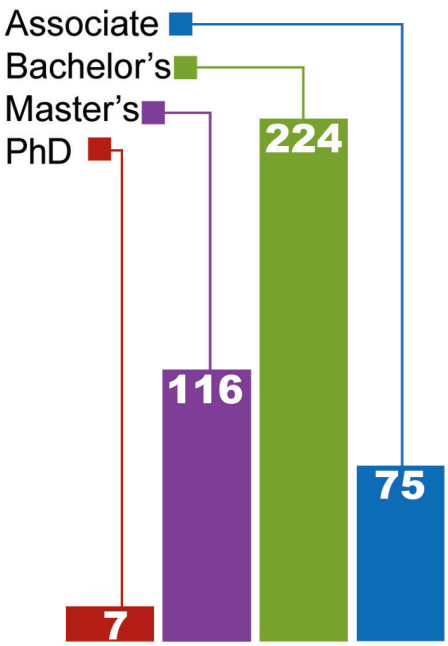
- 536 male
- 281 female

DIVERSITY

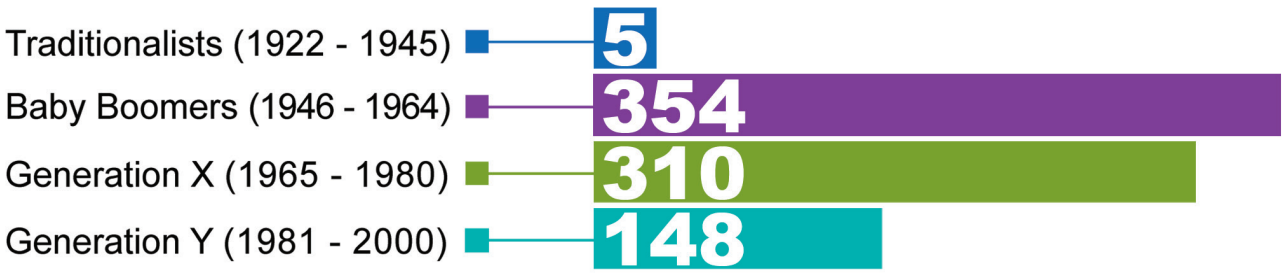


- 578 White
- 123 Hispanic or Latino
- 42 Black or African American
- 32 Asian
- 20 American Indian or Alaska Native
- 12 Two or more races
- 10 Native Hawaiian or Other Pacific

EDUCATION



GENERATIONS (AGE GROUPS)



as of September 30, 2016

Connecting Youth to the Outdoors

We encourage youth to participate in outdoor activities.

In FY 2016, we conducted our annual "Catch A Special Thrill" (C.A.S.T.) event at Lake Mead Marina. The C.A.S.T. for Kids Foundation, in which Reclamation has been a partner since 1992, joins volunteers and special needs individuals for a day of fishing, allowing children and their caretakers to enjoy a day of outdoor experiences. The program increases community awareness of disabled and disadvantaged children, and provides an opportunity to learn more about our natural resources.

The event attracted 31 participants and many of their family members, and 83 volunteers, including 29 boat captains. Las Vegas Boat Harbor provided 12 pontoon boats for the event, and many entities, including BLM, NPS, U.S. Fish and Wildlife Service, Clark County Wetlands Park, and Reclamation, contributed activities or informational exhibits.

Additionally, our Phoenix Area Office conducted its 17th C.A.S.T. for Kids event at Lake Pleasant on March 26th, with 42 special needs children and their families in attendance. Forty-five boat captains volunteered their boats and time for this event. With the help of these captains and more than 100 volunteers from Reclamation, the CAP, Arizona Bass Federation, Maricopa Parks and Recreation Department, and Arizona Game and Fish, the participants were treated to an outdoor adventure that many experienced for the first time.

Reclamation mascot Otto Otter and his 'pup' bring smiles to attendees at the C.A.S.T for Kids event at Lake Mead.

Regional staff also participated in other "connect youth to the outdoors" activities, including Get Outdoors Nevada Day, Bill Williams River National Wildlife Refuge Day, Clark County Wetlands BioBlitz, and several Public Lands Day events.

With more than 160 canals in the Yuma, AZ, area, our Yuma Area Office's outreach included hosting 'Otto Otter', Reclamation's mascot, at several events to teach children about canal safety. These events included the Wellton Tractor Rodeo, and the Carver Elementary School and the City of San Luis Safety Days, which were both open to all kindergarten through 8th grade students. Also, at the annual Yuma Water Festival, Reclamation staff shared information about

the fundamentals of the water cycle, watersheds, groundwater, and water conservation with approximately 500 4th graders from around the Yuma area.

The Southern California Area Office also worked with the San Diego River Park Foundation on 10 river cleanups, coordinating with 944 volunteers, including a number of youth and school groups, who removed 48,755 pounds of trash and recycled 560 pounds of discarded e-waste throughout FY 2016.

Program/Project Support

Without the employees and offices that support our programs, projects, and activities we could not successfully accomplish our mission.

For example, the Region's Information Technology (IT) employees continually enhance and improve our IT systems while ensuring those systems are secure. They also respond to a multitude of daily service requests, which can include software and hardware problem fixes, software installations, hardware installations and moves, webinar setups, and telecommunications system maintenance. During FY 2016, the IT Helpdesk closed 5,028 trouble tickets, or approximately 19 per workday.

Another vital activity essential to our mission is property management. The Region is responsible for a number of assets including accountable personal property (equipment worth $5,000 or more, or considered sensitive and at risk of theft, such as IT and electronic equipment) and real property (buildings and structures).

During FY 2016, Property Management oversaw the acquisition, tracking, and disposition of 1,086 accountable equipment items valued at $31.7M, including 239 vehicles. Real property accounted for 226 buildings, totaling 1.1 million square feet with a total replacement value of $178.9M; and 385 structures with a total replacement value of $21.2B. To reduce Reclamation's overall property footprint, a dilapitated 14,428 square-foot warehouse in Boulder City, NV was demolished.

A variety of disciplines are needed to successfully accomplish our many programs and projects both in the field and in an office setting. Here, a survey technician examines data gathered from a survey in the Yuma area.

What's Ahead

Efficient and cost-effective management of lower Colorado River resources and infrastructure is complex and challenging. Although progress was made in FY 2016, planning for the potential of enduring drought and enhancing our binational cooperation will remain high priority activities for the Region in FY 2017 and beyond.

Addressing Drought – Taking Action to Protect Lake Mead

The Colorado River Basin continues to experience its worst drought in recorded history. Calendar Years 2000 through 2016 mark the driest 17-year period in more than 100 years of record-keeping on the Colorado River. In the first five years of this present drought, storage in the Colorado River system reservoirs declined approximately 30 MAF, from nearly full to about half of capacity; the system is still about half-full today.

With the increasing risk of reaching critically low elevations at Lakes Powell and Mead, Reclamation continues to collaborate with the seven Colorado River Basin States, Mexico, tribes, and other stakeholders to develop drought contingency plans that, when implemented, would supplement measures adopted in the 2007 Interim Guidelines. These Guidelines, in place through 2026, further define the coordinated operations of Lakes Powell and Mead, establish shortage guidelines for the Lower Basin, and provide the Intentionally Created Surplus (ICS) mechanism through which Lower Basin water users can conserve and store water in Lake Mead.

The impact of the prolonged drought on Lake Mead can be seen in these photos. The one on the left was taken in 2003; the other shows the conditions in 2015, when the lake was 62 feet lower.

Additionally, programs continue that are helping conserve more water in Lake Mead.

Pilot System Conservation Program

In FY 2015, Reclamation initiated the Pilot System Conservation Program (PSCP), voluntary efforts to conserve water in Lakes Powell and Mead for the benefit of all Colorado River system users, with partners Denver Water, Central Arizona Water Conservation District (CAWCD), The Metropolitan Water District of Southern California (Metropolitan), and Southern Nevada Water Authority (SNWA). By the end of FY 2016 a total of $15.2 million had been allocated; (with approximately 46 percent funded by Reclamation and 54 percent from the non-federal partners) has been allocated for Lower Basin projects that will ultimately conserve approximately 98,000 AF, or about one foot of Lake Mead elevation.

Memorandum of Understanding

On December 10, 2014, Reclamation signed a Memorandum of Understanding (MOU) with Arizona, California, and Nevada, SNWA, Metropolitan, and CAWCD. Under this MOU, voluntary actions will be taken to retain between 1.5 and 3.0 MAF of water in Lake Mead by the end of 2019. Three MAF would raise Lake Mead's water level by about 35 feet. Through CY 2016, approximately 500,000 AF of water will be conserved in Lake Mead under this program. Reclamation committed to provide 50,000 AF under this MOU. In accordance with this commitment, under a separate agreement executed in 2015 with the Fort McDowell Yavapai Nation in Arizona, the Region provided funding to help the Nation develop local groundwater supplies. In exchange, the Nation reduced its use of about 14,000 AF of its annual CAP water entitlement in 2016, leaving that water in Lake Mead.

242 Wellfield Expansion

Additionally, the Region began implementation of the 242 Wellfield Expansion Project, which will convey groundwater pumped from the 242 Wellfield on the U.S.-Mexico border into the Colorado River near Yuma, AZ.

The 242 wellfield consists of 21 groundwater wells within a strip of land along the U.S.-Mexico border. Its name originated in Minute 242 of the 1944 Water Treaty which limits U.S. and Mexico pumping within this zone to no more than 160,000 AF of water annually by each country.

The 242 Wellfield Expansion Project will pump approximately 25,000 AF of low salinity drainage water from the wellfield and deliver it to the Colorado River, reducing the amount of water that must be released from Lake Mead to meet water delivery commitments. The project consists of a 13-mile-long, 48-inch diameter pipeline to connect wells in the 242 wellfield to the Yuma Mesa Conduit that drains into the river.

In FY 2016, $6.1 million of pipe and other materials were purchased to supplement the $5 million of materials obtained in FY 2015. In addition, about $1.2 million in supporting contracts was awarded and initial excavation work began.

Binational Cooperation

The Colorado River is shared between the United States and Mexico pursuant to a 1944 Water Treaty that addresses operational issues and allocation of the river between the two countries. In addition to its provisions, the Treaty provides for agreements to address issues that arise during Treaty implementation. These implementing agreements are known as "Minutes" to the 1944 Water Treaty, and are negotiated under the authority of the U.S. State Department and the U.S. Section of the International Boundary and Water Commission (IBWC).

Through a binational cooperative process that began in 2007, Reclamation, in partnership with the seven Colorado River Basin States, IBWC, and Mexico, has been working to develop binational approaches to address water conservation, responses to historic drought, and environmental enhancement along the Colorado River in the border region. The current agreement, Minute 319, was signed in 2012 and expires on December 31, 2017.

In FY 2016, Reclamation continued to implement the provisions of Minute 319 to include the sharing of hydrologic and operational information with Mexico, storing of deferred Mexican water in Lake Mead, and further implementation of environmental enhancement projects. Additionally, we partnered with IBWC, representatives of each Basin state, and several non-governmental organizations in the United States to develop elements of a successor agreement to Minute 319.

The new agreement referred to as Minute "32x" (the minute will not be assigned an official number until it is completed) is anticipated to extend and expand upon the many benefits found in Minute 319, including high and low reservoir operations, water storing, water for the environment, and continued U.S. investment in Mexican water conservation projects in exchange for a portion of the water. The new agreement is anticipated to be in effect through 2026.

Morelos Dam, the southernmost dam on the Colorado River, diverts water to agricultural areas near Mexicali, Mexico.

During FY 2016, Lake Mead reached its lowest level, about 36 percent full, since the reservoir was filled in the late 1930s.

In Summary

The Lower Colorado Region enjoyed many program accomplishments in FY 2016. Our successes arise from the dedication of our employees and the strong, collaborative relationships and partnerships we have developed throughout the Region.

The future promises to bring many complex challenges. These include mitigating the impacts of ongoing drought and a changing climate, operating and maintaining our aging infrastructure, continuing to improve operational efficiencies, planning and developing new and more reliable water supplies, and ensuring stewardship of our environmental and cultural resources.

Finding collaborative, cost effective solutions to these challenges won't be easy.

But we are committed to finding and implementing those solutions in partnership with our many interested and involved stakeholders. In short, we are committed to doing our utmost to meet the needs of future generations.

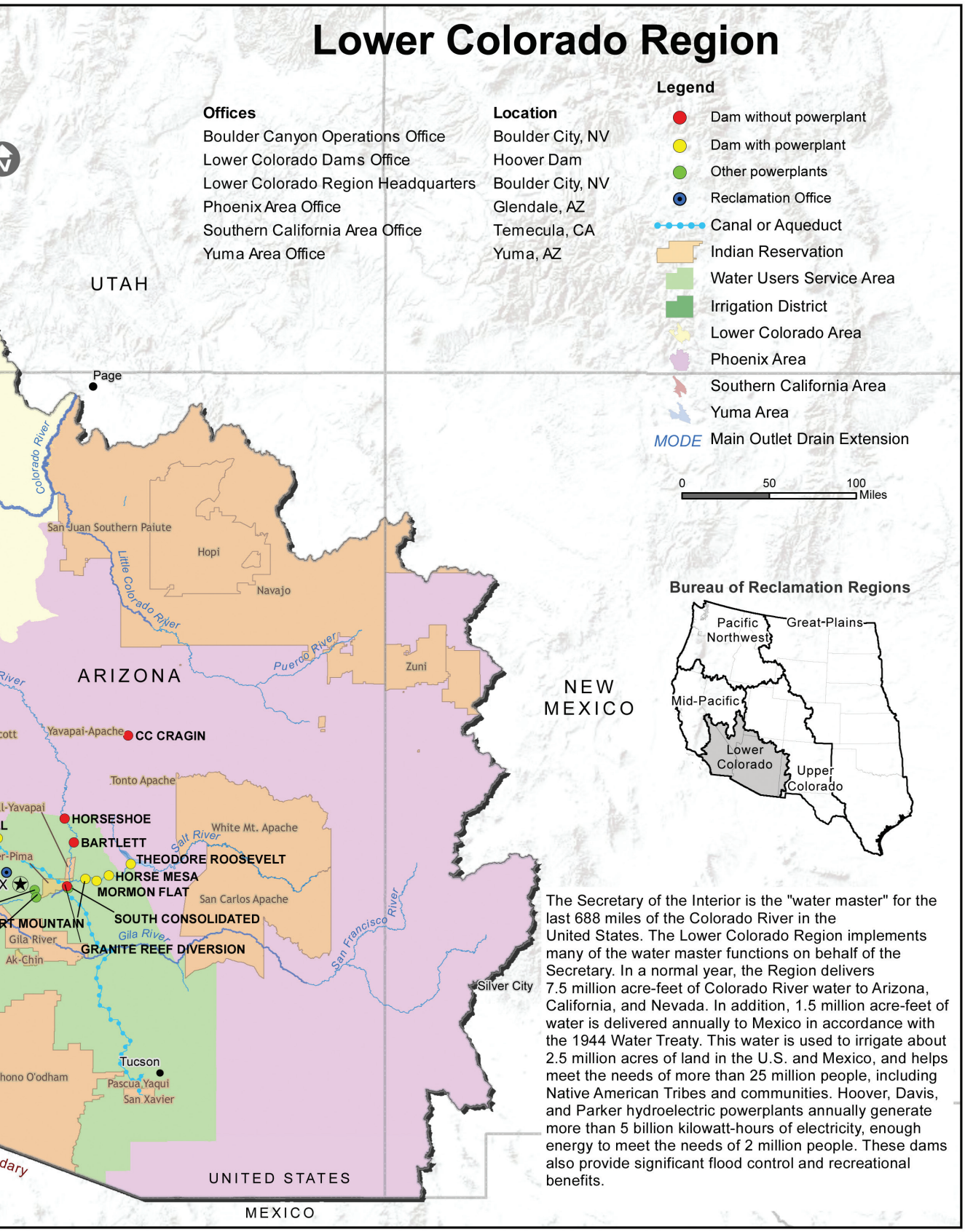
Thank you for joining us in this review of the past year. We invite you to learn more about the Lower Colorado Region and our programs by visiting our website at www.usbr.gov/lc for more information.

Supplemental Materials

Regional Map

Lower Colorado Region

Offices	Location
Boulder Canyon Operations Office	Boulder City, NV
Lower Colorado Dams Office	Hoover Dam
Lower Colorado Region Headquarters	Boulder City, NV
Phoenix Area Office	Glendale, AZ
Southern California Area Office	Temecula, CA
Yuma Area Office	Yuma, AZ



Bureau of Reclamation Regions

The Secretary of the Interior is the "water master" for the last 688 miles of the Colorado River in the United States. The Lower Colorado Region implements many of the water master functions on behalf of the Secretary. In a normal year, the Region delivers 7.5 million acre-feet of Colorado River water to Arizona, California, and Nevada. In addition, 1.5 million acre-feet of water is delivered annually to Mexico in accordance with the 1944 Water Treaty. This water is used to irrigate about 2.5 million acres of land in the U.S. and Mexico, and helps meet the needs of more than 25 million people, including Native American Tribes and communities. Hoover, Davis, and Parker hydroelectric powerplants annually generate more than 5 billion kilowatt-hours of electricity, enough energy to meet the needs of 2 million people. These dams also provide significant flood control and recreational benefits.

Lower Colorado Region Employees

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Mark Anders • Jeffrey Anderson • Laken Anderson • Tracy Anderson • Angela Aniasco • John Arcenas • David Arend • Michael Arend
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Micheal Baker • Sarah Baker • Scott Baker • Derek Ball • Dianne Bangle • Michael Banting • Antonio Baquera • John Baribault • Todd Baribault
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George Gonzalez • George Gorum • Leslie Goudie • Jacklynn Gould • Joseph Grabish • Joseph Graef • David Greene • William Greer
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Michael Hack • Harry Hairston • Alexis Hall • Geoffrey Hall • Randall Hall • Eve Halper • John Hamamoto • Christopher Hamilton
Shanon Handley • Keith Hannon • Christopher Hanson • Peter Harbauer • Daron Hargadine • James Harris • Mark Harris • Jackie Hartman
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Destiny Johnson • Genevieve Johnson • Robert Johnson • William Johnson • Jessie Jones • Patricia Jones • John Jorgenson • Christopher Joyce
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Sherry King • Lesli Kirsch-Burke • Brian Kitt • Ronald Knight • James Knowles • Edward Kromer • Gary Krzisnik • Donna Krzystek
Kurumi Kuroda • Ricky Labistre • John Ladd • Matthew Lafave • John Lakovich • Vincent Lammers • Douglas Lancaster • Norma Lancaster
Jeffrey Lantow • Valerie Leclerc • Jong Lee • Jose Lee • Nathan Lehman • Joseph Lejeune • Michael Lendway • Nathan Lenon • Steve Leon
John Leslie • Susan Levin • Cecil Levy • Desi Lewis • Ingrid Lewis • Robert Lewis • Eric Liming • Kevin Lister • Elijah Long • Eric Loomis

as of September 30, 2016

Tracie Lopata • Chris Lopez • Ezequiel Lopez • Iris Lopez • Lonnie Lopez • Marteen Lopez • Shannon Lynch • Shawn Lynch • Jeffrey Lynn
Deborah Lyons White • Frank Macaluso • Michael Macosko • Jason Magdaleno • Jordan Magdaleno • Toyya Mahoney • Karen Majewski
Keshaw Mallick • Olivia Manary • Kevin Margetts • Lawrence Marquez • Thomas Marsh • Bill Martin • William Martin • Joe Martinez
Ruben Martinez • Donald Mason • Michael Massey • Doreen Masterson • Kristen Matthews • Paul Matuska • Gordon Matzinger • Marc Maynard
Brittany Mcaleese • Bruce Mcbride • Donald Mcbride • Victor Mccall • Charles Mccaughey • Jennifer Mccloskey • Marc Mcclung
Jeffrey Mccormick • Kevin Mcdowell • Lee Mcdowell • John Mcelrath • Richard Mcentee • Cynthia Mcleod • Scott Mcleod • Lisa Mcmanus
Heidi Mcmaster • Douglas Mcpherson • Cora Mcreaken • Julito Mejia • Julie Merchen • Inocensio Mereb • Lee Merideth • Steven Messinger
Leslie Meyers • Marion Mickles • Sharon Milicic • Jan Miller • Lauren Miller • Michael Miller • Jeff Milliken • Joanne Miravete • Francis Mones
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Christopher Moreno • Gary Morgan • Neal Muirhead • Tina Mullis • Christopher Mundson • Terence Murphy • Sheldon Murray
Kimberly Musser • Mario Najarro • John Neader • Douglas Neitzke • Beverly Nelson • Jon Nelson • Kaylee Nelson • Kelli Nelson
Willie Nelson • Jason Nemeth • Marcia Nesby • Dave Nesmith • Chau Nguyen • Hong Nguyen-Decorse • Thomas Nichols • Ana Nicholson
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Hyginus Offor • Milly Okamura • Nohemi Olbert • Christopher Olguin • Larry Oliver • Janet Olsen • Nichole Olsker • Jeffrey Ommen
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Devin Pearson • Allen Peevy • Corey Pemberton • Keven Peppers • Jennifer Perez • Virginia Perez • Jarrett Peters • Scott Peterson
Russell Phelps • Kenneth Phillips • William Pierce • Anna Pinnell • Jacob Piper • Alexander Pivarnik • Luigi Plancher • Walter Planitzer
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Veronica Rodriguez • Eugene Rogers • Rebecca Rogers • Michael Rolfe • Nancy Rolfe • Maria Romasanta • Elsa Romero • Carolyn Ronning
Kevin Ronzheimer • Rosa Rosas • Jennifer Rottinghaus • Eric Rowe • Maribel Ruble • Jennifer Rudd • Nathan Rudd • Jacqueline Runco
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Ricardo Sevilla • James Seward • Wesley Shaw • John Shields • Dustin Shigematsu • Jessica Shirey • Stephen Shiverts • Dennis Shotwell
Hollan Silcox • John Simes • Valerie Simon • Robert Simpson • Robert Skordas • Mark Slaughter • Alexander Smith • Alexander Smith
Amoryn Smith • Clay Smith • Jeffery Smith • Jeneal Smith • Joshua Smith • Juli Smith • Rodney Smith • Ron Smith • Roy Smith • Shawn Smith
Stanley Snow • Doreen Song • John Sorace • Brian Sorensen • Brandon Sparks • Terry Staggs • Karen Stanley-Wolfe • Nicholas Starkey
James Stauffer • Mark Stavis • Laura Steele • William Steele • John Steffen • Jessica Stegmeier • John Stemmer • Marian Stemmer
Matthew Stemmer • Megan Stemmer • Shane Stemmer • Amy Stephenson • Paula Stetka • Jerry Stewart • Kathleen Stewart • Larry Stewart
Richard Stewart • Thomas Stewart • William Stewart • James Stolberg • Rebbecca Stolberg • Jeffrey Stone • Faye Streier • Joseph Stubitz
Cris Stubitz • Timothy Sullivan • Robert Swain • Bruce Swanson • Gregory Swanson • John Swatzell • John Swett • Katherine Swinn
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Shana Tighi • Christy Timko • Glenn Timme • Kenneth Tindall • Virgin Toledo • Sean Torpey • Pedro Torres • Ronnie Torres • Deborah Tosline
Daniel Townsend • Andrew Trader • Jeremy Tripp • Tanya Trone • Andrew Trouette • Phyllis Tsosie • Edith Tucker • Caireen Ulepic
Daniel Umshler • Randall Unverrich • Lindsey Upton • Ronald Vaeth • Jesus Valadez • Paul Valdez • Robert Vallely • Bonnie Van Veldhuizen
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Edward Virden • William Waddilove • Stacy Wade • Christopher Wallace • Maria Wallior • Christopher Wallis • James Wambeke • Bart Wapler
Nathalie Washington • April Webb • Rebecca Weir • John Weiss • Valerie Weisser • Veronica Welch • Scott Wells • George Wendt
Crystal White • Julie White • Leslie White • Dwight Whitlow • Vivian Whitlow • Debra Whitney • Mark Wilkinson • Leonard Willett
Dedina Williams • Sandra Williamson • Georgie Willis • Eric Willson • Richard Willson • Brenda Wilson • Mark Wilson • Nicole Wilson
Terri Wilson • Brian Wingfield • Edward Wisner • Amy Witherall • Corinna Wittig • Dennis Wolfe • George Wolfe • June Wolfe • Ty Wolters
Peter Wong • Cheri Woodward • Emme Woodward • Grant Woodward • Linda Wright-Mitchell • Damon Yabo • Tess Yiamarelos • Gloria Yoakum
Elizabeth Young • Jon Zander • Katherine Zander • Alexis Zegers • Kevin Zito • Leticia Zuniga

Rainstorm over LCR MSCP Cibola Valley Conservation Area, Arizona

Regional Management Team

Regional Director
Terry Fulp

Deputy Regional Director
Jennifer McCloskey

Deputy Regional Director
Jacklynn Gould

Acting Deputy Regional Director
Charles Addington

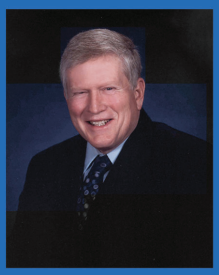
Special Assistant
Michael Bernardo

Regional Liaison
Sean Torpey

Safety & Occupational Health Office
Juli Smith

Lower Colorado Dams Office
Rob Skordas

Phoenix Area Office
Leslie Meyers



Southern California Area Office
Bill Steele

Yuma Area Office
Maria Ramirez

Acquisition & Assistance Management Office
Beverly Nelson

Boulder Canyon Operations Office
Steve Hvinden

Desert Landscape Conservation Cooperative
Genevieve Johnson

Engineering Services Office
Len Schilling

Equal Employment Opportunity Office
Linda Rivera

External Affairs Office
Rose Davis

Financial Management Office
Stacy Wade

Human Resources Office
Lisa Cronister

Acting Management Services Office
Seth Otroski

Multi-Species Conservation Program
John Swett

Native American Affairs Office
Ruth Thayer

Power Office
Chau Nguyen

Resource Management Office
Marc Maynard

Security Office
Dan Cowden

Offices and Facilities

Our activities are accomplished through the cooperative, coordinated efforts of several offices. We also work closely with federal, state and local entities; Indian Tribes; water and power constituents; environmental groups; and other interested groups to achieve our goals.

Regional Office

Location: Boulder City, NV

Area of Operation: Primarily southern Nevada and southern Utah; works with Area Offices to accomplish Region's programs.

Major Responsibilities: The Regional Director and Deputies oversee and have overall management responsibility for Regional activities. Program offices – Acquisitions and Assistance, Equal Employment Opportunity, Engineering Services, External Affairs, Financial Management, Human Resources, Management Services, Native American Affairs, Power, Resources Management, Safety and Occupational Health, Security, and Lower Colorado River MSCP – direct, manage or work closely with Area Offices to accomplish various programs and activities.

Contact: Lower Colorado Regional Office, Bureau of Reclamation, PO Box 61470, Boulder City NV 89006
Phone: (702) 293-8000 Web site: www.usbr.gov/lc

Boulder Canyon Operations Office

Location: Boulder City, NV

Area of Operation: Colorado River from Lee Ferry in northern Arizona to Davis Dam north of Laughlin/Bullhead City

Major Responsibilities: Supports the Region's water and hydropower management efforts. Works closely with the Yuma Area Office, Lower Colorado Dams Office, water and power contractors, Indian Tribes, and others to manage and schedule water and power operations on the lower Colorado River. Develops and administers water delivery contracts. Accounts for annual Colorado River water use in the Lower Basin and deliveries to Mexico. Oversees the regional water conservation program.

Contact: Boulder Canyon Operations Office, Bureau of Reclamation, PO Box 61470, Boulder City NV 89006
Phone: (702) 293-8400 Web site: www.usbr.gov/lc/riverops.html

Lower Colorado Dams Office

Location: Headquartered at Hoover Dam

Area of Operation: Manages, operates and maintains Hoover, Davis and Parker Dams and their associated powerplants and facilities.

Major Responsibilities: Through coordinated operations with Boulder Canyon Operations and Yuma Area Offices, delivers reliable water supply to contractors in Arizona, Nevada, California, and to Mexico. Generates power that is marketed in the three states under long-term contracts. Operates dams to provide flood protection when needed. Manages public tours of Hoover Dam; about one million people a year tour this iconic engineering structure.

Contact: Lower Colorado Dams Office, Bureau of Reclamation, PO Box 60400, Boulder City NV 89006
Phone: (702) 494-2301 Web site: www.usbr.gov/lc/hooverdam/lcdo.html

Phoenix Area Office

Location: Glendale, AZ

Area of Operation: Most of Arizona and the Gila River Basin in western New Mexico.

Major Responsibilities: Oversees the operation and maintenance of the Salt River and Central Arizona Projects, both of which are owned and constructed by Reclamation, but are managed by other entities. Maintains an oversight role with the entities that manage recreation at the New Waddell Dam reservoir and canal-side facilities developed on Reclamation-owned project lands. Partners with state, local and tribal governments and others to address contemporary water management needs. Works with the Department of the Interior and others to implement Indian water rights settlements.

Contact: Phoenix Area Office, Bureau of Reclamation, 6150 W. Thunderbird Rd., Glendale AZ 85306
Phone: (623) 773-6200 Web site: www.usbr.gov/lc/phoenix/

Southern California Area Office

Location: Temecula, CA

Area of Operation: California south of the Tehachapi Mountains except for the Imperial, Coachella and Colorado River valleys.

Major Responsibilities: Supports and cooperates with southern California water agencies, Tribes and others to develop or enhance their water supplies or improve their water management practices. Administers water conservation, wastewater reclamation and reuse projects, desalination research, and drought assistance programs. Provides technical assistance to Indian tribes, and water resources planning activities throughout Southern California.

Contact: Southern California Area Office, Bureau of Reclamation, 27708 Jefferson Ave., Ste. 202, Temecula CA 92590
Phone: (951) 695-5310 Web site: www.usbr.gov/lc/socal/

Yuma Area Office

Location: Yuma, AZ

Area of Operation: Lower Colorado River below Davis Dam; southwestern Arizona and southeastern California.

Major Responsibilities: Coordinates with Boulder Canyon Operations and Lower Colorado Dams Offices to schedule and deliver Colorado River water to users in southwest Arizona, southeast California, and Mexico. Operates and maintains large-scale well fields to help maintain water tables near Yuma. Oversees the Yuma Desalting Plant, one of the world's largest reverse osmosis desalination facilities. Conducts advanced water treatment research at a state-of-the-art research center. Participates in water conservation outreach and demonstration projects with local irrigation districts and Native American tribes. Maintains the river system including levees and other Reclamation facilities; and provides oversight of transferred works.

Contact: Yuma Area Office, Bureau of Reclamation, 7301 Calle Agua Salada, Yuma AZ 85364
Phone: (928) 343-8100 Web site: www.usbr.gov/lc/yuma/